

TECHNICAL MANUAL

AVIATION-CREW SYSTEMS

SEAT SURVIVAL KITS

(SKU-SERIES SEAT KITS)

N68936-04-D-0008

This change incorporates IRAC 11.

**This manual update includes Basic, dated 1 December 1997,
thru Change 7, dated 1 August 2004.**

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1 DECEMBER 1997
CHANGE 7 - 1 AUGUST 2004

LIST OF EFFECTIVE PAGES

Insert latest changed pages; dispose of superseded pages in accordance with applicable regulations.

NOTE: On a changed page, the portion of the text affected by the latest change is indicated by a vertical line, or other change symbol, in the outer margin of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages are:

Change 0 1 Dec 1997 (Inc prev incorp IRAC 1) (Incorp IRACs 2 thru 4)	Change 2 1 Feb 2000 Change 3 1 Jun 2001 (Incorp IRAC 6)	Change 5 1 Sep 2002 (Incorp IRAC 10)
Change 1 1 Dec 1998 (Incorp IRAC 5)	Change 4 1 Nov 2001 (Incorp IRACs 7 thru 9)	Change 6 1 Jan 2004 Change 7 1 Aug 2004 (Incorp IRAC 11)

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Major changes resulting from this change are as follows:

1. Incorporation of IRAC 11 (To correct current maintenance procedures pertaining to Acceptance/Phased/SDLM Inspection requirements for SKU-10/A Seat Survival Kits (WUC 17590)).
2. Incorporation of Aircraft Accident Report Inspection information.

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CHAPTER 1

INTRODUCTION

1-1. GENERAL.

WARNING

Unauthorized modification to, and deviations from, prescribed life support and survival equipment by individual crewmen could create unknown safety hazards. The OPNAVINST 3710.7 Series specifies minimum requirements for such equipment and is supplemented by the individual model NATOPS.

1-2. The OPNAVINST 4790.2 Series identifies NAV-AIRSYSCOM as the only authority for modification to life support and survival equipment, which is usually accomplished by the Fleet Support Team (FST) (formerly Cognizant Field Activity (CFA)) via Aircrew System Changes or a change to the equipment procurement package. This manual also permits an operating activity, with approval of the controlling custodian, to conditionally modify ONE unit of equipment in-service in order to correct or overcome unsatisfactory conditions in that equipment item. Any other type of deviation, peculiar configuration, or modification to life support and survival equipment is not allowed, and Aircrew Survival Equipmentmen have no authority or responsibility to perform them.

1-3. If an omission or conflict should occur between FST documents and NATOPS requirements, if there is a need for clarification of equipment configuration, or if equipment deficiencies are discovered, the applicable FST should be notified. The FST for Seat Survival Kits is Naval Air Warfare Center Aircraft Division (NAWCAD) Code 4.6.2.1, NAS Patuxent River, MD, 20670-1906. For parachutes and related hardware, including torso harnesses, the FST is the Naval Air Warfare Center Weapons Division, Code 463000D, China Lake, CA, 93555.

1-4. NAWCAD DET, INDIANAPOLIS, IN 46219, has cognizance over all survival radios and emergency beacons.

1-5. The Aviation-Crew Systems manual is released under the authority of the Naval Air Systems Command in compliance with the request of the Chief of Naval Operations. The instructions contained herein are mandatory. This manual consists of separately bound volumes, as listed below:

TITLE	PUBLICATION NUMBER
Inflatable Survival Equipment (Liferafts)	NAVAIR 13-1-6.1-1
Inflatable Survival Equipment (Life Preservers)	NAVAIR 13-1-6.1-2
Parachutes	NAVAIR 13-1-6.2
Seat Survival Kits (Oxygen Hoses and Non-SKU Seat Kits)	NAVAIR 13-1-6.3-1
Seat Survival Kits (SKU Series Seat Kits)	NAVAIR 13-1-6.3-2
Oxygen Equipment (Aircraft Equipment, Masks, and Other Systems)	NAVAIR 13-1-6.4-1
Oxygen Equipment (Regulators)	NAVAIR 13-1-6.4-2
Oxygen Equipment (Concentrators)	NAVAIR 13-1-6.4-3
Oxygen Equipment (Converters)	NAVAIR 13-1-6.4-4
Rescue and Survival Equipment	NAVAIR 13-1-6.5
Aircrew Personal Protective Equipment (Aircrew/Passenger Equipment)	NAVAIR 13-1-6.7-1
Aircrew Personal Protective Equipment (Clothing)	NAVAIR 13-1-6.7-2
Aircrew Personal Protective Equipment (Helmets and Masks)	NAVAIR 13-1-6.7-3
Aircrew Personal Protective Equipment (Protective Assembly, Aircrew Survival - Armor)	NAVAIR 13-1-6.7-4
Special Missions Aircrew Equipment	NAVAIR 13-1-6.10

NAVAIR 13-1-6.3-2

1-6. The purpose of this volume is to provide technical information related to the configuration, application, function, inspection, and maintenance of a particular category of aircrew safety and survival equipment. The information contained in each volume is intended for Organizational, Intermediate, and Depot Levels of maintenance as established within the Naval Aviation Maintenance Program (OPNAVINST 4790.2 Series).

1-7. DESCRIPTION OF NAVAIR 13-1-6.3-2.

1-8. CONTENTS. This volume contains all information on configuration, function, application, modifications, rigging and packing, inspection and maintenance, local fabrication of tools and equipment, and Illustrated Parts Breakdown of seat survival kits (SKU-Series Seat Kits).

1-9. CONFLICTS AND SUPERSEDURES. These volumes shall take precedence over all other documents except for effective related Aircrew System Bulletins and Changes, and Interim Aircrew System Bulletins and Changes. These documents are effective until officially rescinded, canceled, or superseded.

1-10. The modifications section of each chapter lists all effective changes which affect seat survival kits and have been issued on or before the date of latest change or revision to this volume. When applicable, the subject matter of these documents has been incorporated within the text of the appropriate chapters.

1-11. Effective changes and bulletins which effect seat survival kits and are issued between changes and revisions to this volume should be recorded in the modification section of the manual for the affected equipment by annotating the outer margin of the page with a vertical line and the number of the change or bulletin. A copy of the change or bulletin should be filed in a separate binder in the ALSS work center. When this volume is updated these documents will be listed in the modification sections of the applicable chapters and the text of the chapters will be updated to reflect the changes and bulletins.

1-12. Appendix A is reserved.

1-13. Appendix B lists torquing requirements for flared tube and pipe connections.

1-14. Appendix C lists all metric system and metric unit conversion charts.

1-15. UPDATING. These volumes will be updated periodically by the issuance of a revision, which is a 100 percent replacement of pages. Between revisions, changes and rapid action changes will be released, which are partial replacement of pages. All added and changed pages shall be incorporated in these volumes according to page number. Superseded and deleted pages shall be discarded in accordance with the local security procedures for data containing distribution statements. A list of effective pages is provided with each change. A summary of the major changed areas for a particular change or revision is located directly beneath the list of effective pages.

1-16. COMMENTS AND RECOMMENDATIONS. Comments and recommendations shall be submitted using established deficiency reporting systems in accordance with OPNAVINST 4790.2 Series.

1-17. ENGINEERING DRAWINGS. Government engineering drawings are available to the fleet by submitting a letter of request to Commanding Officer, Naval Air Technical Data and Engineering Service Command, Naval Air Station North Island, P.O. Box 357031, Building 90 Distribution, San Diego, CA 92135-7031. Each request should include the equipment nomenclature, part number, and CAGE code. The drawings will be provided in the form of aperture cards (Automatic Data Processing Punch Cards). Technical data may also be obtained online at the NATEC website located at <http://www.natec.navy.mil>. Authorized users must first establish an account prior to obtaining data. Access/account information can be obtained at the NATEC website.

1-18. TECHNICAL DIRECTIVES AND FORMS. NATEC is the central management activity for aeronautical technical publications, engineering drawings and associated technical services. Upon release, NATEC will forward to all designated activities, copies of Technical Directives and Forms. Additional copies are available utilizing the procedures shown in paragraph 1-14 as well as from the PMA-202 website at <https://pma202.navair.navy.mil>.

1-19. QUALITY ASSURANCE. Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by a Collateral Duty Inspection (CDI-CDQAR-QAR-QA) as established within the Naval Aviation Maintenance Program (OPNAVINST 4790.2 Series) prior to proceeding to the next operation. In no case shall an Aircrew Survival Equipmentman perform his/her own quality assurance inspection.

1-20. ALLOWANCE LISTING OF SEAT SURVIVAL KITS.

1-21. NAVAIR 00-35QH-2 establishes the allowance listing for seat survival kits as applicable. The allowance is generally determined by the number of crew-member seats (stations) aboard the aircraft and the specific duties required for the aircrewmember. A specific spare allowance is provided for extra flight crew requirements, assemblies down for rework, awaiting replacement units, and inspection cycle spares.

1-22. LEVELS OF MAINTENANCE.

1-23. Maintenance, inspection, repair, and overhaul shall be performed at the established level of maintenance in accordance with and as defined in OPNAVINST 4790.2 Series. In cases of necessity, such as at very small activities, Organizational and Intermediate Levels may be combined within local capabilities. It is recognized that, due to conditions other than those assumed here, minor deviations to procedures outlined in this manual may be unavoidable. Prior to forwarding to a depot facility, it shall be definitely determined that maintenance cannot be performed at a lower level.

1-24. SUPPLEMENTARY PUBLICATIONS.

1-25. In addition to Aircrew System Bulletins and Changes, and Interim Aircrew Systems Bulletins and Changes still in effect, the following publications supplement this volume.

1. NAVAIR 00-35QH-2, Allowance List, Aviation Life Support System and Airborne Operation Equipment for Aircraft Squadrons Navy and Marine Corps.

2. OPNAV INSTRUCTION 4790.2 Series. The Naval Aviation Maintenance Program.

3. OPNAVINST 4410.2A.

4. NATOPS MANUALS provide information on required Aircrew Personal Protective Equipment.

5. Naval Logistical Library (NAVSUP 600) lists directives and manuals available from Naval Publications and Forms Center.

6. P2300, Repairable Assemblies (lists repairable assemblies and applicability of Navy aviation materials).

7. P2310, Supporting Repair Parts (lists supporting repair parts of Navy aviation materials).

8. NAVAIR 13-1-6-8 Work Unit Code Manual lists work unit codes assigned to survival equipment.

9. NAVSUPINST 4423.29 (Series) Naval Material Command (NMC) Uniform Source, Maintenance and Recoverability (SM&R) Codes.

10. NAVAIR 01-1A-509 Cleaning and Corrosion Control Manual.

11. ASTM-D-6193 Standard Practice for Stitches and Seams.

12. NAVAIR 16-30URT33-1 Beacon Set, Radio AN/URT-33A, Organizational and Intermediate Maintenance Instructions.

13. NAVSUP P-719 is a Guide for the Assignment and Use of Source, Maintenance and Recoverability (SM&R) Codes.

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CHAPTER 2

MAINTENANCE CONCEPTS, SCHEDULING AND DOCUMENTATION

Section 2-1. Maintenance Concepts

2-1. GENERAL.

2-2. NAVAL AVIATION MAINTENANCE PROGRAM. All maintenance and inspection actions upon Aviation Life Support Systems (ALSS) equipment shall be made as part of the Naval Aviation Maintenance Program in accordance with OPNAVINST 4790.2 Series. If a seat survival kit has been opened for any type of unscheduled maintenance action, or if the condition of the kit contents is in question, it is required that the survival kit content's integrity be verified by an intermediate level or above QA representative prior to closing the survival kit. If the kit integrity is questionable, the survival kit must be repacked in accordance with the applicable chapter. If

the kit is opened for maintenance other than scheduled repack, record actions performed in the local use block of OPNAVINST 4790/137 and retain repack information until next repack occurs.

2-3. LEVELS OF MAINTENANCE. Maintenance of ALSS equipment shall be performed at the established level of maintenance in accordance with OPNAVINST 4790.2 Series.

2-4. QUALIFIED PERSONNEL. Refer to OPNAVINST 4790.2 Series for qualifications of personnel authorized to perform maintenance actions on ALSS equipment.

Section 2-2. Maintenance Scheduling

2-5. GENERAL.

NOTE

2-6. INSPECTION CYCLES. Scheduled maintenance requirements for aircraft and man-mounted equipment are published in the applicable aircraft maintenance requirement cards and this manual.

To meet unusual situations and facilitate workload scheduling, refer to OPNAVINST 4790.2 Series for authorized deviations to scheduled phase inspection intervals.

Section 2-2A. Accident Evaluation

2-6A. AIRCRAFT ACCIDENT REPORT INSPECTION.

Air Warfare Center Aircraft Division, Bldg 2187, 48110 Shaw Rd., Unit 5, Patuxent River, MD 20670-1906.

1. Any Aviation Life Support System Equipment along with related subassemblies or equipment which have been recovered following use in an emergency ditching/bailout or ejection (Refer to NAVAIR 13-1-6.2 for personnel and drogue parachutes) will be returned to the nearest Naval Supply Activity for shipment via traceable means to: Code 4.6.3.3, Naval

NOTE

Under no circumstances will any piece of Aviation Life Support System equipment subjected to ditching/bailout or ejection be returned to service.

2. Stencil outside of container in 1-in. letters as follows: THIS EQUIPMENT HAS BEEN USED IN AN EMERGENCY. These items of equipment are re-

quired for evaluation and determination of design deficiency and to establish requirements for product improvement.

Section 2-3. Maintenance Documents

2-7. GENERAL.

2-8. DOCUMENTING MAINTENANCE ACTIONS. Upon completion of any maintenance action (e.g., inspections, repairs, modifications), appropriate entries shall be made on applicable maintenance records, in accordance with OPNAVINST 4790.2 Series. The entries by the Aircrew Survival Equipmentman shall provide a systematic record of equipment

history and the documentation of all maintenance actions performed on the equipment.

2-9. MAINTENANCE DOCUMENTS. Refer to OPNAVINST 4790.2 Series for documents used to record history or to document maintenance actions or for additional information for completion of maintenance records. These records are designed to provide continuous configuration and inspection records throughout the service life of ALSS assemblies and their components.

Section 2-4. Illustrated Parts Breakdown Information

2-10. GENERAL.

2-11. This section explains the Illustrated Parts Breakdown (IPB) for ALSS equipment. The IPB can be found at the end of each chapter where applicable. The IPB should be used during maintenance when requisitioning and identifying parts.

2-12. SYMBOLS AND ABBREVIATIONS. Symbols and abbreviations used in the Illustrated Parts Breakdown are as follows:

Symbol	Definition
---*---	Closure (end) of attaching parts
#	Selected part, only one used
x	By (used in dimensions 12 in. x 6 in.)
&	And
Abbreviation	Definition
AR or A/R	As Required
CAGE	Commercial and Government Entity
COML	Commercially available
FIG, Fig	Figure
GAPL	Group Assembly Parts List
GFE	Government Furnished Equipment
IPB	Illustrated Parts Breakdown

L.H.	Left Hand
MAINT	Maintenance
NHA	Next Higher Assembly
No.	Number
RECOVER, RECY	Recoverability
REF	Reference
R.H.	Right Hand
SM&R	Source, Maintenance and Recoverability
Spec. Cont.	
Dwg. or SCD	Specification Control Drawing

2-13. GROUP ASSEMBLY PARTS LIST.

2-14. The Group Assembly Parts List (GAPL) contains illustrations and parts lists for each major assembly. These illustrations and accompanying lists show how the major assemblies are disassembled into subassemblies and detail parts. Each item illustrated is indexed for identification purposes. Each illustration is accompanied by a parts list providing a part number, description, and quantity for each item. The list is arranged in disassembly order. Through the use of a system of indentation, the relationship of the detail parts to the subassemblies and the relationship of the subassemblies to the main assembly, is shown.

2-15. FIGURE AND INDEX NUMBER COLUMN. The figure and index number of each item shown on the corresponding illustration appears in the Figure and Index Number Column, with the exception

of assemblies and subassemblies which are not illustrated in assembled form. In these cases, the assemblies or subassemblies are listed but not indexed. The component parts thereof are both listed and indexed.

2-16. PART NUMBER COLUMN. This column contains the contractor's drawing number, government standard number, vendor drawing number or identifies the part as being commercial hardware (COML). Government standard parts are listed using the applicable MS, AN, AF, NAF, MIL, or JAN part number. Where the part number is controlled by a military specification, this specification number is listed in the Description Column.

2-17. DESCRIPTION COLUMN. This column lists the item name plus those modifiers necessary to identify the item. The description of a vendor-supplied item includes a five-digit number which identifies the manufacturer. This is the Commercial and Government Entity (CAGE) code. To correlate this CAGE code to the manufacturer's name, refer to the catalog-

ing handbook H4/H8. CAGE codes may be omitted for prime manufacturer's parts and for government standard parts. When applicable, contractor's control drawing numbers and reference designations of electronic parts are also listed for general reference. When a separate exploded view is used to show the detail parts of an assembly or subassembly the Description Column contains an appropriate figure cross-reference in parenthesis following the description. This cross-reference appears both in the listing where the assembly is first described, and in the listing which the assembly is broken down. In the latter case, the abbreviation REF will appear in the Units Per Assembly column. Commercial hardware items (COML) are fully described so that they may be procured from normal commercial sources. Parts stocked in kits are identified with kit component code in this column, i.e., KD.

2-18. Indentation. The indentations headed "1" through "7" in the Description Column are provided

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to show the relationship of assemblies and their detail parts. The detail parts are indented one space to the right and listed below the assembly to which they belong. Determine the next higher assembly (NHA) of any detail part by locating, in the next space to the left (excluding attaching parts) the first item above the detailed part.

1 2 3 4 5 6 7

ARTICLE (or MAIN ASSEMBLY)

. Detailed parts for ARTICLE (or MAIN ASSEMBLY)

. ASSEMBLY

(ATTACHING PARTS)

. ATTACHING PARTS FOR ASSEMBLY

---*---

. . Detailed parts for ASSEMBLY

. . SUBASSEMBLY

(ATTACHING PARTS)

. . ATTACHING PARTS FOR SUBASSEMBLY

---*---

. . . Detailed Parts for SUBASSEMBLY

. . . SUB-SUBASSEMBLY

(ATTACHING PARTS)

. . . ATTACHING PARTS FOR SUB-SUBASSEMBLY

---*---

. . . . Detailed parts for SUB-SUBASSEMBLY

2-19. Attaching Parts. Attaching parts are items used to attach parts or assemblies to each other and follow immediately after the part to be attached. The attaching parts have the same indentation as the part attached. The caption “(ATTACHING PARTS)” is placed on the line immediately above the listing of attaching parts. The separation symbol ---*--- appears on the line immediately under the last attaching part. Quantities of attaching parts are listed per unit. For example, if two fittings are required for each assembly and one bolt is required to attach each fitting, the correct listing would be:

. FITTING ASSEMBLY, Hinge 2

(ATTACHING PARTS)

. BOLT 1

---*---

2-20. UNITS PER ASSEMBLY COLUMN. This column shows the quantity of an item required in the next higher assembly. The abbreviation AR indicates when the quantity is “As Required”.

2-21. USABLE ON CODE COLUMN. Usable on codes are used to indicate part usage where various models and serial numbers of the equipment or similar parts within the equipment use different parts. A code is assigned to each variation of the equipment and entered into the GAPL when a part is used only

in a specified variation. Where no code is entered, the part is used on all units covered by the GAPL or when no variations from the original equipment exist.

2-22. NUMERICAL INDEX.

2-23. The numerical index which follows each GAPL contains all the part numbers listed in that GAPL, arranged in alphabetical-numerical sequence.

2-24. PART NUMBER COLUMN. This column contains the part numbers of the parts and assemblies. Part number arrangement starts at the extreme left-hand position and continues left to right, one position at a time, according to the following order or precedence:

Space	(blank column)
Diagonal	(Slant)
Point	(period)
Dash	(hyphen)
Letters	A through Z
Numerals	0 through 9

NOTE

Spaces, diagonals, points, and dashes do not appear in the extreme left-hand position of the part numbers. However, they may be used in the second and succeeding positions and take precedence over letters and numbers as indicated above.

2-25. FIGURE AND INDEX NUMBER COLUMN. In this column, the digits preceding the dash refer to the figure in which the parts are illustrated. The digits following the dash are the index numbers.

2-26. SOURCE, MAINTENANCE AND RECOVERABILITY (SM&R) CODE COLUMN. The five digit SM&R codes, assigned by Naval Air Systems Command Representatives are reflected in the SM&R code column. The code format is composed of three parts consisting of a two-position Source Code, a two-position Maintenance Code and a one-position Recoverability Code. See Table P-1 for basic information.

NOTE

For more complete information on Uniform SM&R Codes, refer to NAVSUPINST 4423.29, OPNAVINST 4410.2A, and NAVSUP P-719.

Table 2-1. Source, Maintenance, and Recoverability (SM&R) Code Definitions

SOURCE			MAINTENANCE			
1st POS	2nd POSITION		3rd POSITION		4th POSITION	
MEANS OF ACQUIRING SUPPORT			USE: LOWEST LEVEL AUTHORIZED TO REMOVE/ REPLACE THE ITEM.		REPAIR: LOWEST LEVEL WITH CAPABILITY AND RESOURCES TO PERFORM COMPLETE REPAIR ACTION.	
P	A	ITEM: STOCKED	O	ORG/UNIT	O	ORG/UNIT
	B	ITEM: STOCKED, INSURANCE				
	C	ITEM: STOCKED, DETERIORATIVE				
	D	ITEM: SUPPORT, INITIAL ISSUE OF OUTFITTING & STOCK ONLY FOR ADDITIONAL INITIAL ISSUE				
	E	EQUIPMENT: SUPPORT, STOCKED FOR INITIAL ISSUE OR OUTFITTING OF SPECIFIED MAINTENANCE ACTIVITIES	2 3 4 5 6	MINESWEEPER SUBMARINES AUX/AMPHIB DESTROYER, FFG CRUISER/CARRIER	2 3 4 5 6	MINESWEEPER SUBMARINES AUX/AMPHIB DESTROYER, FFG CRUISER/CARRIER
	F	EQUIPMENT: SUPPORT, NONSTOCKED, CENTRALLY PROCURED ON DEMAND	F	I/AFLOAT	F	I/AFLOAT
	G	ITEM: STOCKED FOR SUSTAINED SUPPORT. UNECONOMICAL TO PRODUCE AT A LATER TIME				
	H	ITEM: STOCKED, CONTAINS HAZMAT. HMIS/MSDS REPORTING REQUIRED				
	R	TERMINAL OR OBSOLETE, REPLACED	G	ASHORE AND AFLOAT	G	ASHORE AND AFLOAT
		Z					TERMINAL OR OBSOLETE, NOT REPLACED
K		D				
	F	ITEM: MAINTENANCE KIT, PLACE AT O, F, H, L				
	B	ITEM: IN BOTH DEPOT REPAIR AND MAINT. KITS				
M	O	MFR OR FAB AT UNIT LEVEL	K	CONTRACTOR FACILITY	K	CONTRACTOR FACILITY
	F	MFR OR FAB AT INTERMEDIATE/DS LEVEL				
	H	MFR OR FAB AT INTERMEDIATE/GS LEVEL				
	L	MFR OR FAB AT SPECIALIZED REPAIR ACTIVITY (SRA)				
	G	MFR OR FAB AT ASSEMBLED AFLOAT OR ASHORE				
	D	MFR OR FAB AT DEPOT MAINTENANCE LEVEL				
A	O	ITEM: ASSEMBLED AT ORG/UNIT	L	INTERMEDIATE SRA	L	INTERMEDIATE SRA
	F	ITEM: ASSEMBLED AT INTERMEDIATE LEVEL - AFLOAT				
	H	ITEM: ASSEMBLED AT INTERMEDIATE LEVEL - ASHORE	D	DEPOT	D	DEPOT
	L	ITEM: ASSEMBLED AT SRA				
	G	ITEM: ASSEMBLED AFLOAT OR ASHORE				
	D	ITEM: ASSEMBLED AT DEPOT MAINTENANCE LEVEL				
X	A	ITEM: REQUISITION NEXT HIGHER ASSEMBLY	Z	REF ONLY	Z	NON-REPAIRABLE
	B	ITEM: NOT PROCURED OR STOCKED, AVAILABLE THRU SALVAGE, REQ. BY CAGE/PART NUMBER				
	C	INSTALLATION DRAWING, DIAGRAM, INSTRUCTION SHEET, IDENTIFY BY CAGE/PART NUMBER				
	D	NON-STOCKED, OBTAIN VIA LOCAL PURCHASE				

RECOVERABILITY		SERVICE OPTION CODE	
5th POSITION		6th POSITION	
DISPOSITION: WHEN UNSERVICEABLE OR UNECONOMICALLY REPAIRABLE, CONDEMN OR DISPOSE.		ASSIGNED TO SUPPORT ITEMS TO CONVEY SPECIFIC INFORMATION TO THE SERVICE'S LOGISTICS COMMUNITY/OPERATING FORCES.	
O	ORG/UNIT	1	I-LEVEL 1ST DEGREE
F	I/AFLOAT	2	I-LEVEL 2ND DEGREE
G	ASHORE AND AFLOAT	3	I-LEVEL 3RD DEGREE
H	I/ASHORE	6	COMMERCIAL ITEM, ORGANICALLY MFR'D
K	DLR; CONTRACTOR FACILITY	8	NON-CONSUMABLE; 2ND DEGREE ENGINE I-LEVEL
		9	NON-CONSUMABLE; 3RD DEGREE ENGINE I-LEVEL
L	INTERMEDIATE SRA LEVEL	E	END TO END TEST
		J	INTER-SERVICE DLR REPAIRABLE BELOW D-LEVEL
D	DLR; CONDEMN OR DISPOSE AT DEPOT	P	PROGRESSIVE MAINTENANCE
Z	NON-REPAIRABLE	R	GOLD DISC REPAIR
A	NON-REPAIRABLE BUT REQUIRES SPECIAL HANDLING	T	TRAINING DEVICES

CHAPTER 3

SKU-2/A SEAT SURVIVAL KIT

Section 3-1. Description

3-1. GENERAL.

3-2. The SKU-2/A Seat Survival Kit (figures 3-1 and 3-2) is designed for use with the MK-GRU-7A and MK-GRUEA-7 ejection systems and functions as a seat for the aircrewman and as a container for an emergency oxygen system, liferaft and survival items. The survival kits, less Koch fittings, seat cushion and thigh support cushions are manufactured by East/West Industries P/N 221J100-1. The entire assembly is supplied by Grumman (CAGE 26512) and carries a P/N 128ES10065-13.

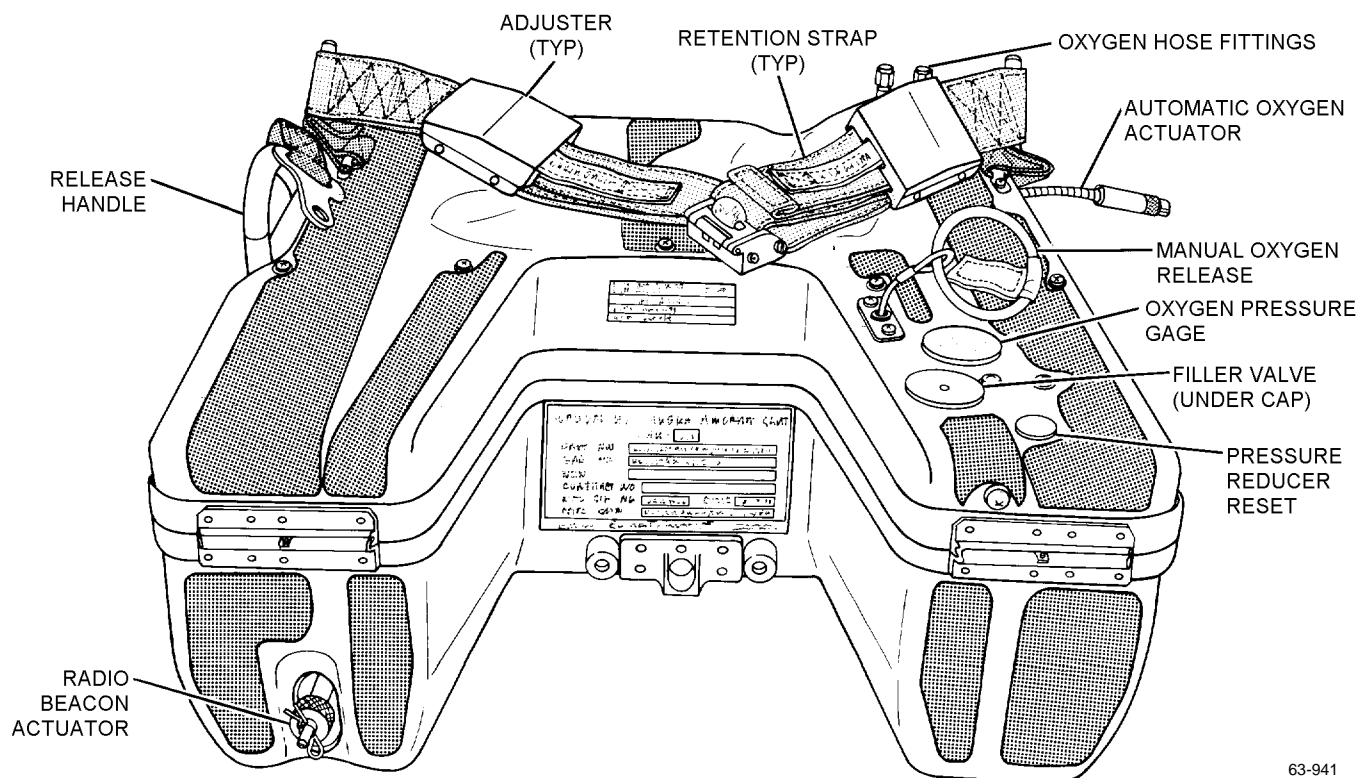
3-3. CONFIGURATION.

3-4. The SKU-2/A is a rigid-type container fabricated of molded fiberglass and contains equipment required for survival of the aircrewman after ejection. The SKU-2/A fits into the seat bucket, and is securely attached by lock receptacles at the lower aft corners of the seat bucket and a negative-g retaining pin receptacle at center forward on the lower container. During normal operation the kit provides support and comfort for the aircrewman, and a routing for emergency oxygen and communications. If failure occurs in the aircraft oxygen supply, or in case of high altitude or underwater ejection, the kit contains a 50 cubic inch, 1800 psi, emergency oxygen cylinder that provides an emergency supply of oxygen for approximately 20 minutes. The emergency oxygen pressure gage is visible through an opening in the left thigh support of the container when the thigh support cushion is removed. The lid of the container is fastened to a metal valence and contains the latches and oxygen equipment. The lower container contains the latching mechanism, liferaft and survival equipment, including an emergency radio beacon. The radio beacon actuator lanyard, located in the right front corner

of the lower container, is attached to the aircraft and is actuated when the aircrewman ejects. The two halves of the kit are securely fastened together by a lock and latch mechanism and can be quickly separated by the aircrewman for access to his liferaft and survival equipment by actuation of kit release handle. The container lid and the front section of the lower container are equipped with pile tape fastener which provides for firm attachment of the hook tape-equipped ventilated seat cushion and the non-ventilated thigh support cushions. A carrying handle is provided at the rear of the kit.

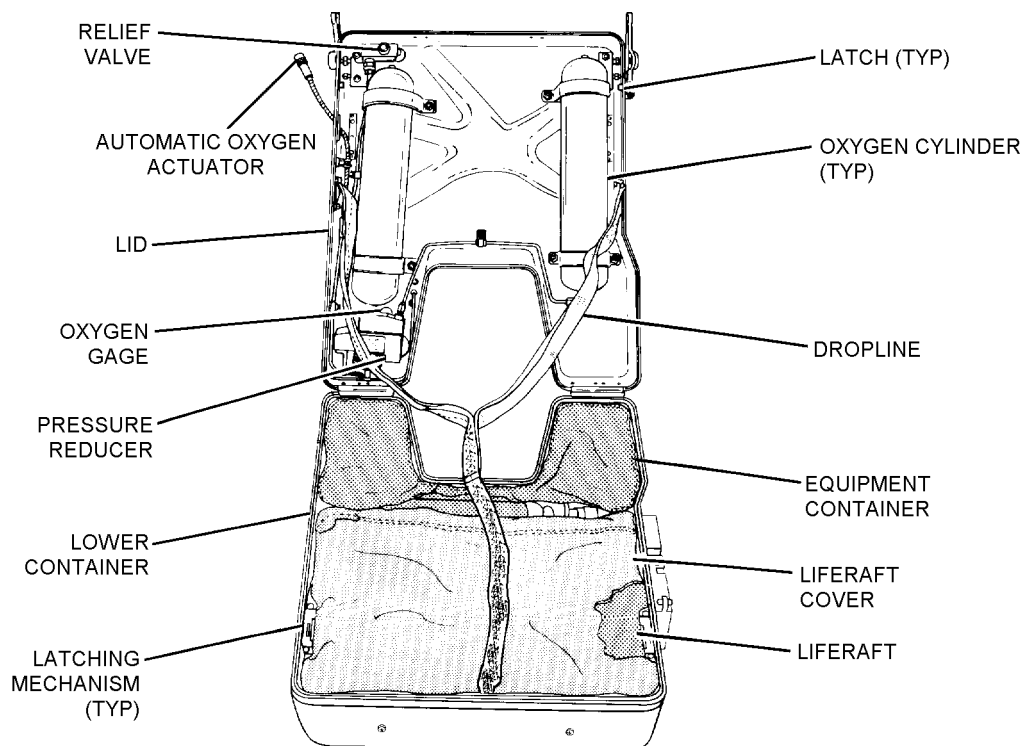
3-5. MK-GRUEA-7 and MK-GRU-7A (BUNO 159631 and subsequent). These ejection seats are equipped with one personnel service disconnect block secured to the left side of the ejection seat bucket. The personnel services connected to the block assembly consist of oxygen and communications, anti-g, vent air and an automatic oxygen release cable connection. The oxygen, vent air and anti-g supply flow directly through the block assembly to the aircrewman's anti-g garment, and the seat quick-disconnects.

3-6. MK-GRUEA-7 and MK-GRU-7A (BUNO 157980 thru 159630). This ejection seat is equipped with two personnel service disconnect blocks; the oxygen and communications and the anti-g and vent. Both blocks are secured to the left side of the ejection seat bucket. The personnel services connected to the oxygen and communication block are an oxygen and communications line, an emergency oxygen automatic release cable connection, and a block release lanyard. The personnel services connected to the anti-g and vent block are an anti-g hose, a block release lanyard and a vent air hose. The vent air hose may be connected to the seat, to a pressure suit or to an anti-exposure suit.



63-941

Figure 3-1. SKU-2/A Closed



63-942

Figure 3-2. SKU-2/A Open

3-7. SUBASSEMBLIES. The major subassemblies of the SKU-2/A are as follows:

1. Emergency Oxygen System
2. Upper and Lower Container
3. Handle Release Mechanism
4. Dropline Assembly
5. Cushions
6. Survival Equipment Container
7. Hose Assembly
8. Harness Assembly

3-8. REFERENCE NUMBERS, ITEMS AND SUPPLY DATA.

3-9. Figures 3-25 through 3-33 contain information on each assembly, subassembly and component part of the SKU-2/A. The figure and index number reference or part number, description, and units per assembly are provided.

3-10. APPLICATION.

3-11. The SKU-2/A is a part of the survival equipment used by aircrewmembers aboard aircraft listed in table 3-1.

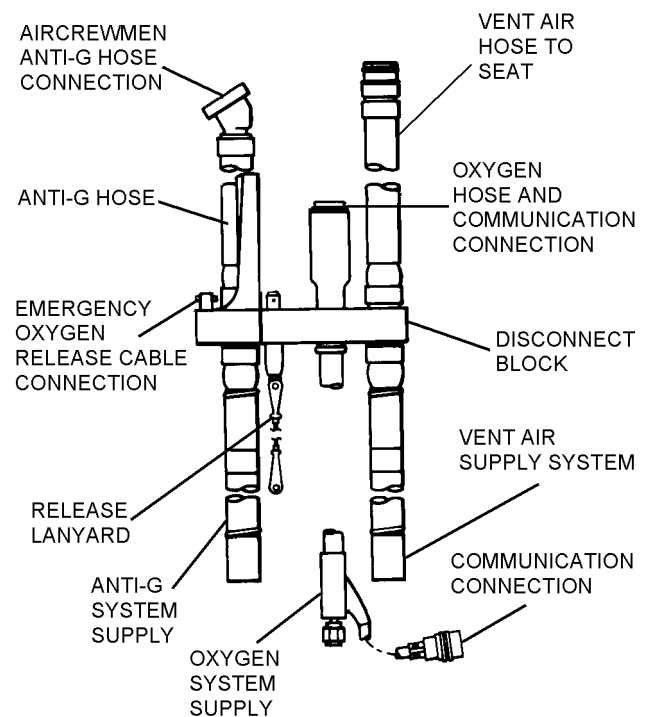
Table 3-1. SKU-2/A Application

Escape System	MK-GRUEA-7	MK-GRU-7A
Aircraft	EA-6B	F-14A

3-12. FUNCTION.

3-13. When the aircrewman ejects from the aircraft the following series of events occur:

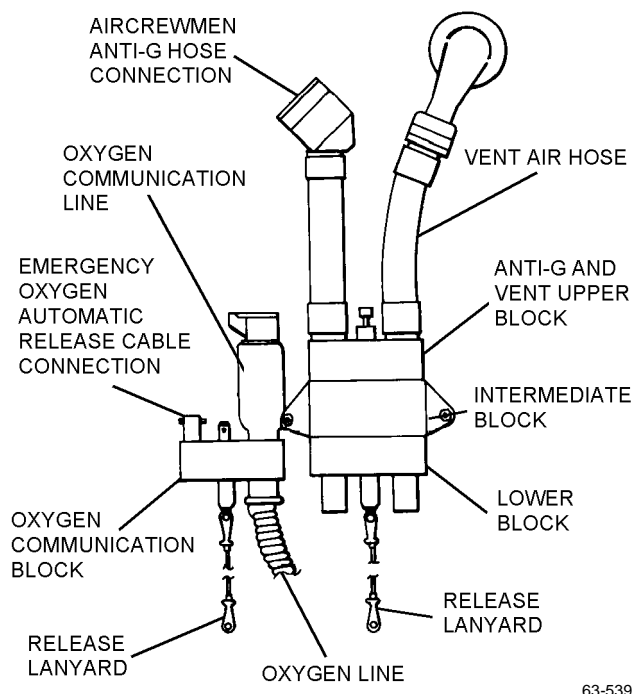
1. MK-GRUEA-7 and MK-GRU-7A (BUNO159631 and subsequent). The personnel services block (figure 3-3) is disengaged from the seat by a lanyard secured to the cockpit deck. As the seat continues up, the emergency oxygen lanyard, which is attached to the block, actuates the emergency oxygen. The lanyard separates from the survival kit and remains with the block. The radio beacon actuated by a lanyard attached to the cockpit deck provides a continuous signal during descent. The oxygen and communications, anti-g and vent air hoses then separate from the block in sequence, depending on the slack in each hose. During descent, while in the seat or after separation from the seat the aircrewman is provided with emergency oxygen until the supply is exhausted.



63-509

Figure 3-3. Personnel Services Disconnect MK-GRUEA-7 and MK-GRU-7A (BUNO159631 and Subsequent)

2. MK-GRU-7A (BUNO157980 thru 159630). The personnel service blocks (figure 3-4) are disengaged from the seat by two release lanyards which are secured to the deck of the aircraft. As the seat moves upward, the aircrewman's oxygen hose is disconnected from the oxygen-communications block. The emergency oxygen system, located in the survival kit, is actuated simultaneously by an automatic actuation lanyard connected to the oxygen-communications block. The lanyard breaks away from the survival kit and remains connected to the block, which remains with the aircraft. The radio beacon, also activated by a lanyard attached to the cockpit deck provides a continuous signal during descent. The anti-g-vent air block is divided into three parts; lower block, intermediate block and upper block. Upon ejection, the lower block disconnects from the intermediate block by a lanyard attached to the cockpit deck. When seat/ man separation occurs, the upper block remains with the aircrewman while the intermediate block remains with the seat.



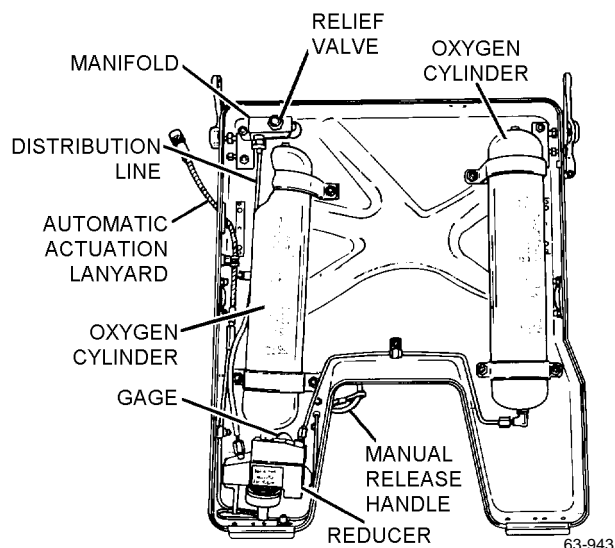
63-539

Figure 3-4. Personnel Services Block MK-GRU-7A (BUNO157980 thru 159630)

NOTE

If automatic actuation of the emergency oxygen system fails, the system can be actuated by pulling the manual oxygen release (figure 3-5).

3. When kit deployment is desired, the aircrewman pulls the kit release handle on the right side of the seat. As the lower container falls away, the dropline assembly connecting the two halves of the kit pulls out of the boots, and the liferaft is extracted from the lower container. When the lower container reaches the end of its free fall and the dropline becomes taut, the CO₂ inflation assembly is automatically actuated and the raft inflates. After entering the water, the aircrewman boards the raft and retrieves the lower half of the kit containing the survival equipment. The survival equipment is stored in a U-shaped container which is attached to the dropline by a length of nylon cord. The aircrewman may then desire to cut this nylon cord and remove the U-shaped container from the lower half of the kit. The U-shaped container is equipped with a retention lanyard and snaphook. The snaphook is fastened to the thong on the right slide fastener. The aircrewman then fastens the snaphook to his survival vest to ensure retention of both the container and all his survival equipment (figure 3-8).



63-943

Figure 3-5. SKU-2/A Emergency Oxygen System

Section 3-2. Modification

3-14. GENERAL.

3-15. The following modifications to the SKU-2/A are required/authorized at this time. Refer to [Table 3-2](#).

Table 3-2. SKU-2/A Directives

Description of Modifications	Applications	Modification Code
Incorporate Toggle Modification to Reducer Assembly Emergency Oxygen	All SKU-2/A Seat Survival Kits	66-486

Section 3-3. Rigging and Packing

3-16. GENERAL.

3-17. Unless operational requirements demand otherwise, rigging and packing of the SKU-2/A shall be accomplished at the Intermediate Level of maintenance. All rigging and packing shall be performed only by qualified personnel every 448 days for F-14 aircraft or every 365 days for EA-6B aircraft.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by Quality Assurance (QA).

3-18. RIGGING AND PACKING PROCEDURES.

3-19. Rigging and packing of the SKU-2/A is accomplished in eight separate operations as follows:

1. Preliminary Procedures
2. Radio Beacon Rigging and Installation
3. Survival Equipment Binding
4. Survival Equipment Packing
5. Stowing Dropline
6. Liferaft Preparation, Folding, Rigging and Packing
7. Closing Container

3-20. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-2/A.

1. Ensure SKU-2/A and components have been inspected in accordance with [Section 3-5](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.
4. Remove liferaft cover. Inspect liferaft cover for damaged fabric and loose, broken, or frayed stitching.

WARNING

CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

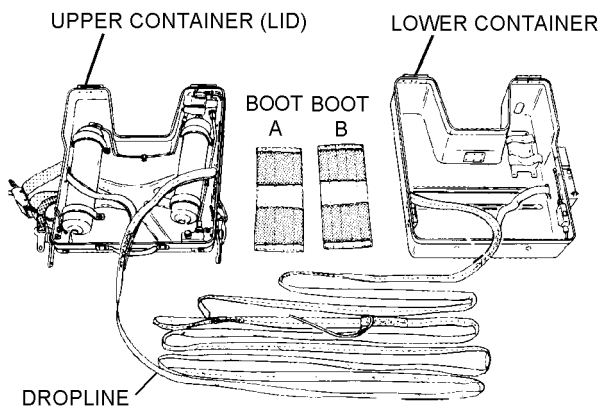
Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

5. Disconnect CO₂ cylinder from liferaft as follows:

- a. Carefully remove liferaft from container
- b. Disconnect actuation line from CO₂ cylinder
- c. Disconnect CO₂ cylinder from liferaft
- d. Remove large loop of drop line from CO₂ cylinders neck
- e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.

6. Ensure liferaft and CO₂ cylinder have been inspected in accordance with NAVAIR 13-1-6.1-1.

7. Remove dropline from boots and align kit components on a clean flat surface as shown.



63-947

Step 7 - Para 3-20

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 26 feet, 4 inches \pm 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of \pm 12 inches is acceptable for an older dropline assembly.

8. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 26 feet, 4 inches \pm 12 inches.

9. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.

10. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.

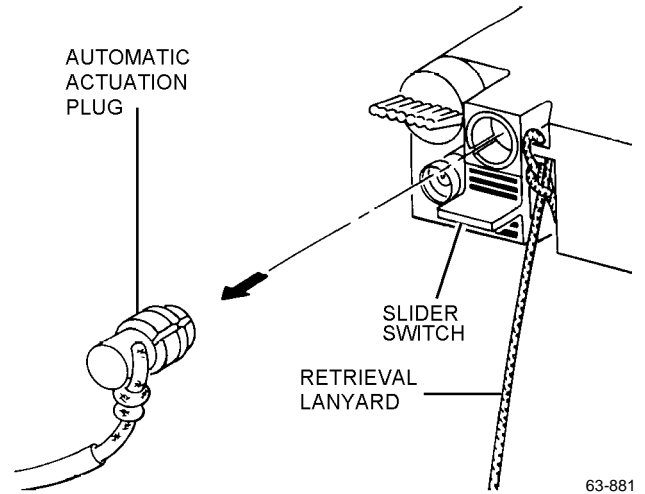
11. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of attachment, corrosion, damage, wear, and ease of operation.

3-21. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Beacon Set, Radio AN/URT-33A	MIL-B-38401A
1	Actuator Indicator Assembly	CL204D3-11 (CAGE 80206)
1	Pin, Cotter, Hairpin	LHCOTC (CAGE 96652) NIIN 00-956-5635
3	Rubber Bands (Type I)	MIL-R-1832 NIIN 00-568-0323
As Required	Thread, Nylon, Type II, Class A, Size E	V-T-295 NIIN 00-244-0609

1. Remove automatic actuation plug and lanyard from radio beacon assembly.



Step 1 - Para 3-21

Support Equipment Required

Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 3-72

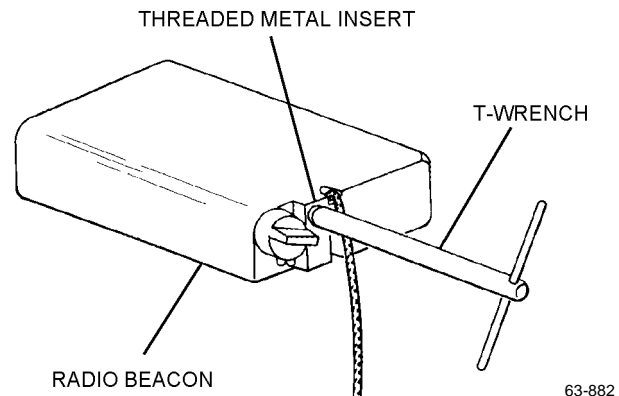
2. Remove threaded metal insert from beacon with T-wrench. To fabricate T-wrench, refer to [paragraph 3-72](#).

NOTE

Ensure that slider switch on radio beacon is OFF. Slider switch is in OFF position when word ON is not visible on radio beacon housing.

Determine if beacon has been modified in accordance with [steps 1 through 3](#) before proceeding to [step 4](#).

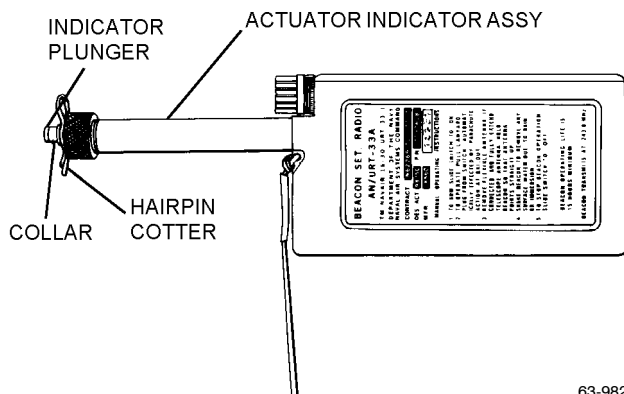
Retain automatic actuation plug with lanyard and metal insert in shop for possible future use.



Step 2 - Para 3-21

NAVAIR 13-1-6.3-2

3. Screw actuator indicator (P/N CL204D3-11) into beacon.



63-982

Step 3 - Para 3-21

4. Hold indicator plunger depressed and insert hairpin cotter. Ensure that indicator plunger is retained in pressed position.

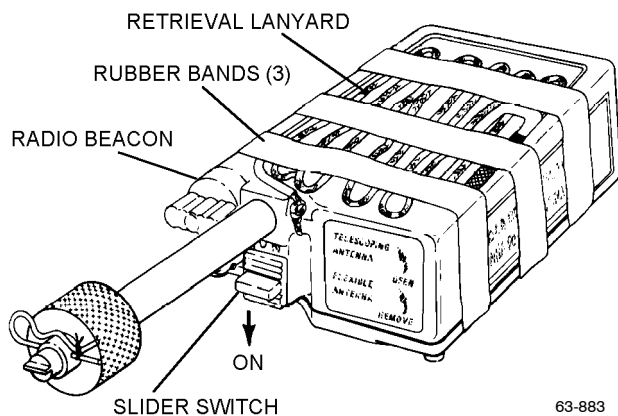
5. Ensure hairpin in cotter and collar are free to rotate 360° without binding. If hairpin cotter and collar are free, proceed to [step 6](#). If hairpin cotter and collar do not rotate, refer to NAVAIR 16-30URT33-1.

6. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing, using size E nylon thread. Secure mousing loop with square knot. Cut off excess approximately 1/8 inch from knot.

NOTE

Do not release indicator plunger with beacon slider switch in ON (armed) position. Beacon will transmit an inaudible emergency distress signal.

7. Accordion-fold retrieval lanyard on top of radio beacon and secure with three rubber bands (MIL-R-1832, Type I). Ensure retrieval lanyard is attached at both ends with a bowline knot, with an overhand knot tied at the tag end.



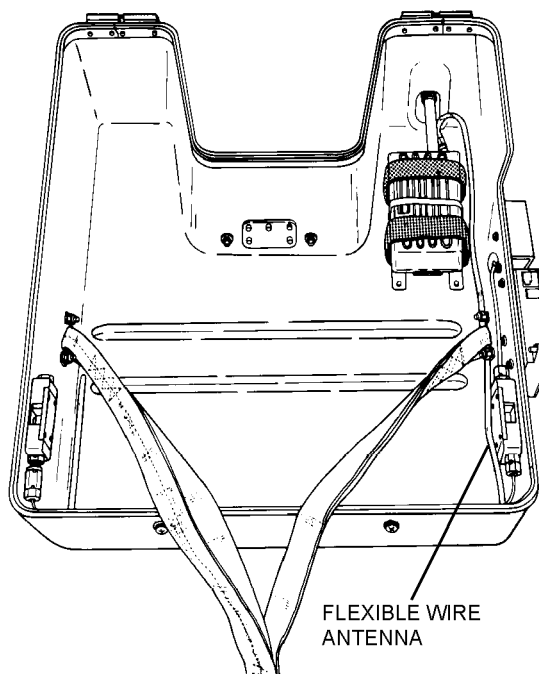
63-883

Step 7 - Para 3-21

8. Connect flexible wire antenna to beacon.

9. Place ON/OFF slider switch in ON position and install beacon assembly in bracket in lower container. Position beacon in bracket with indicator plunger, collar, and hairpin cotter extending through appropriate hole in right front of container. Check to ensure slider switch is in ON position then secure beacon with hook and pile tape fasteners.

10. Route flexible wire antenna aft along right side of lower container.



63-967

Step 10 - Para 3-21

3-22. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 before binding. To bind survival items, proceed as follows ([table 3-3](#)).

NOTE

To prevent loss of survival items, tie items individually and then tie to 140-inch length of nylon cord. Nylon cord of prescribed lengths required for this procedure shall be seared at both ends to prevent fraying ([table 3-4](#)).

Table 3-3. Survival Kit Items (Note 1)

Item Name	Quantity	Reference Number
Cord, (Nylon), Fibrous Type I	50 ft	NAVAIR 13-1-6.5
Signal, (Flare), Smoke and Illumination, MK-13 MOD 0 or MK-124 MOD 0 (Note 2)	2	NAVAIR 13-1-6.5
Sea (Dye) Marker, Fluorescent	2	NAVAIR 13-1-6.5
Sponge, (Bailing), Cellulose Type II, Class 2	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet #1 (Medical) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet #2 (General) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 7)	Optional	NAVAIR 13-1-6.5
Water, Drinking, Canned (Note 4)	1	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 5)	6	NAVAIR 13-1-6.5
or Water, Drinking, Emergency (118 ml) (Note 5)	3	NAVAIR 13-1-6.5
Opener, Can, Hand (Note 6)	1	NAVAIR 13-1-6.5
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Blanket, (Combat) Casualty, 3 oz	1	NAVAIR 13-1-6.5
Envelope, Packing List	2	NAVAIR 13-1-6.5
Beacon Set, Radio	1	NAVAIR 13-1-6.5
Liferaft, Inflatable	1	NAVAIR 13-1-6.1-1

Notes: 1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIRWARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.

Table 3-3. Survival Kit Items (Note 1) (Cont)

Notes: 2. MK-13 MOD 0 shall be used until stocks are depleted. MK-124 MOD 0 will replace MK-13 MOD 0 (Cont) as stocks become available.

3. SRU-31/P complete kits including Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.
4. When the supply for emergency canned water has been exhausted, use bagged drinking water and remove can opener.
5. If Bag, Drinking Water (50 ml), is not available, substitute Water, Drinking, Emergency (118 ml), in accordance with NAVAIR 13-1-6.5
6. If canned water is not being used, there is no need to pack can opener.
7. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.

**Table 3-4. Nylon Cord Lengths
Required for Binding**

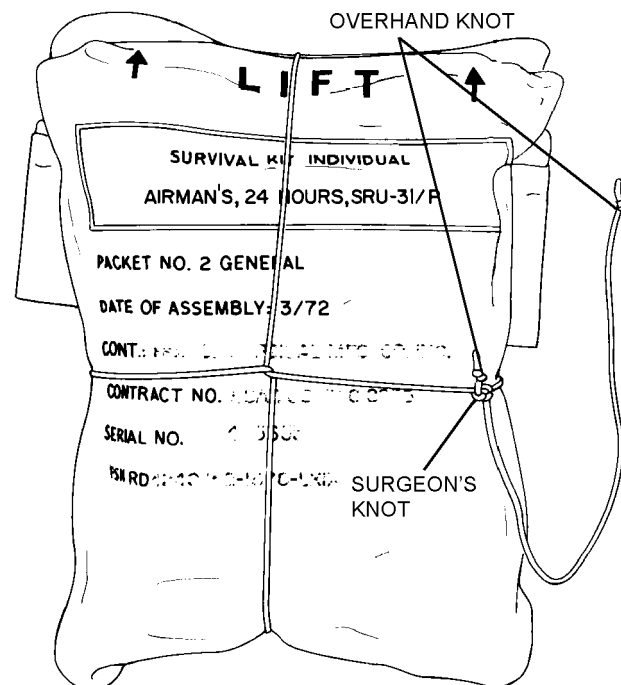
Length (Inches)	Number Required
140	1
12 (Note 1)	5
30	1
36	2
40	3
50 (Note 1)	1

Notes: 1. When using bagged water in place of canned emergency water, the number of required 12 inch lengths will be a total of 6 and the required 50 inch lengths will be 0.

NOTE

SRU-31/P Packet #1 (Medical) shall be folded approximately in half prior to tying.

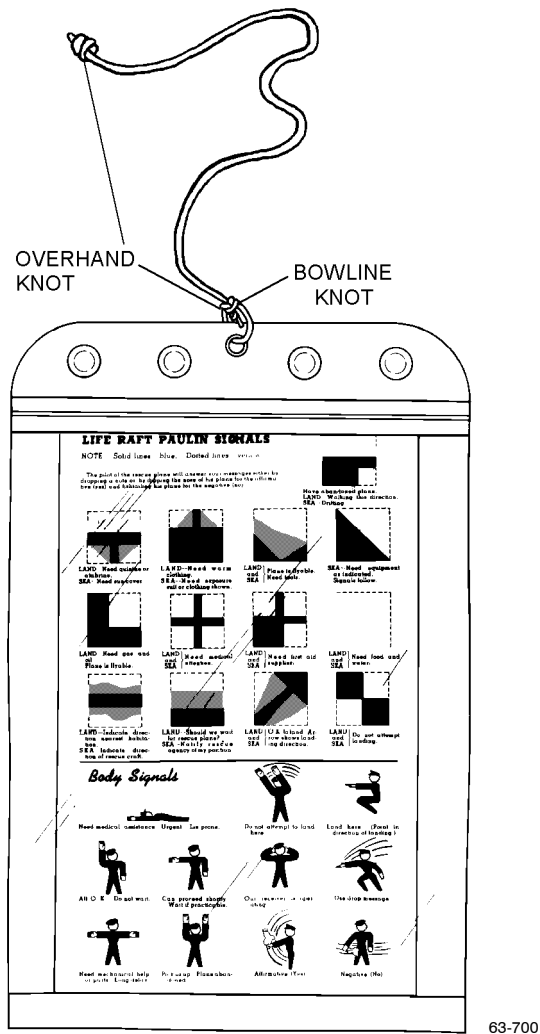
1. Tie an overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around packet #1 of the SRU-31/P Survival Kit. Rotate cords 1/4 turn and wrap cord around opposite sides of packet. Tie with a surgeon's knot. Ensure cord-end overhand knot is positioned snugly against surgeon's knot. Tie packet #2 in same manner, except do not fold.



63-701

Step 1 - Para 3-22

2. Insert Ground/Air Emergency Code card into a clear vinyl envelope (MIL-B-117), and close sealing fastener. Tie an overhand knot in each end of a 12-inch length of nylon cord, and pass knot through center hole in envelope. Tie a bowline with a 1-inch loop. Ensure cord-end overhand knot is snugly against bowline knot.



63-700

Step 2 - Para 3-22

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3. Tie an overhand knot in each end of a 50-inch length of nylon cord. Wrap one end of cord two overlapping turns around end of canned water and tie with surgeon's knot positioned snugly against cord-end overhand knot. Route cord to opposite end of can. Wrap cord two overlapping turns around can and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Cord between end-ties shall be drawn tight.

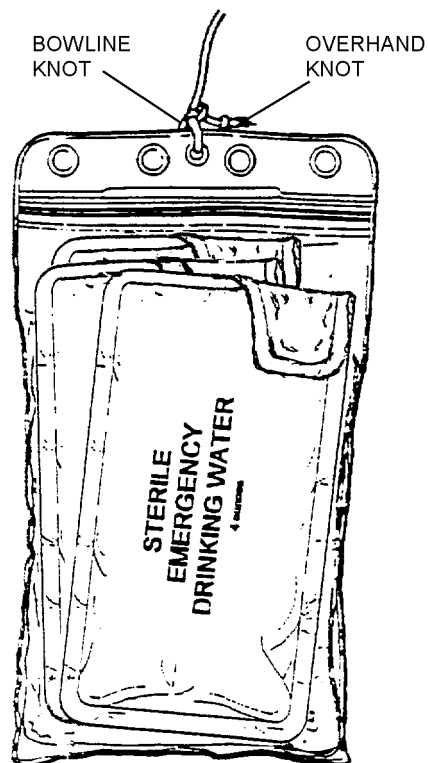


Step 3 - Para 3-22

NOTE

Replacement rate of exhausted canned water shall be in accordance with the NAV-AIR 13-1-6.5 manual. Bagged emergency drinking water shall be stowed in the same order as canned emergency water. The bags of water shall be stowed in a flat configuration.

4. Bagged water. Place a maximum of three 4-ounce bagged emergency drinking water flat inside a clear vinyl envelope (MIL-B-117) with pour spout folded down. Bagged water must be able to fit into envelope without disrupting the closure of the sealing slide fastener. Using a 12-inch length of cord, tie an overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1-inch loop. Position an overhand knot snugly against the bowline knot. Ensure overhand knot is snug against surgeon's knot.

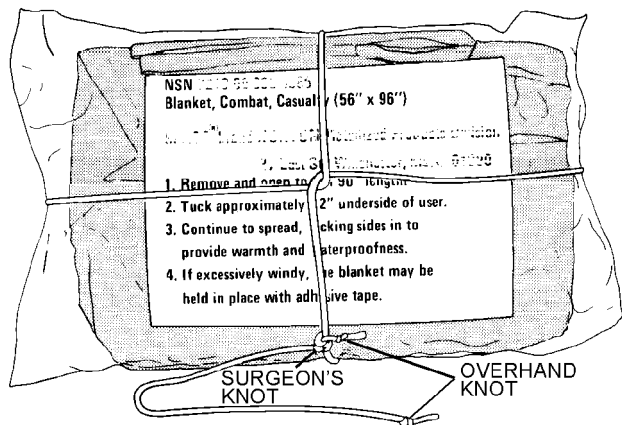


Step 4 - Para 3-22

63-22

NAVAIR 13-1-6.3-2

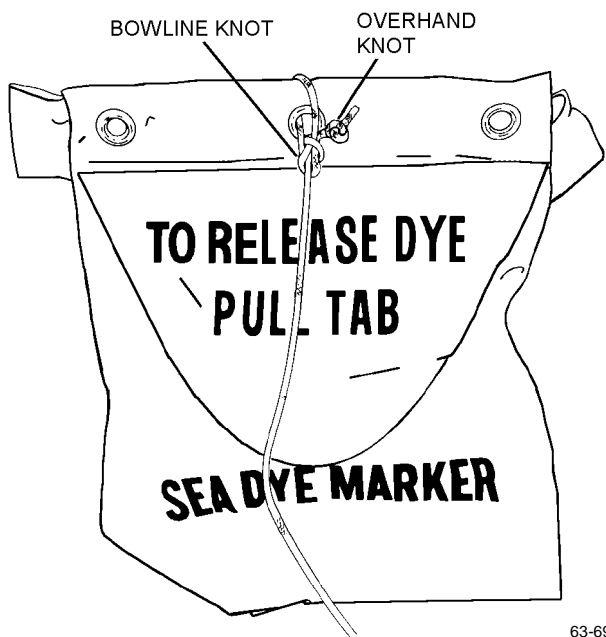
5. Tie an overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around the combat casualty blanket. Rotate cords 1/4 turn as shown, and wrap cord around opposite side of blanket. Tie with a surgeon's knot. Ensure overhand knot is snugly against surgeon's knot.



63-944

Step 5 - Para 3-22

6. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass overhand knot through center grommet in dye marker, and tie a bowline with a 1-inch loop. Ensure overhand knot is snugly against bowline.



63-695

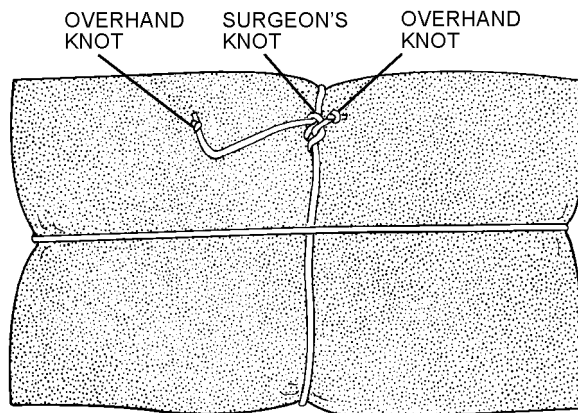
Step 6 - Para 3-22

7. Tie second dye marker in same manner as step 5.

NOTE

Compress bailing sponge to minimum thickness while wet, and allow to dry in the compressed state before tying.

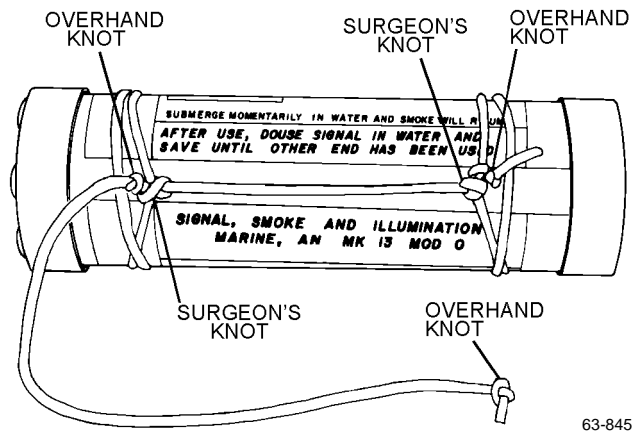
8. Tie an overhand knot in each end of a 30-inch length of nylon cord. Wrap cord around bailing sponge, then rotate cords 1/4 turn as shown. Wrap cord around opposite side of sponge and tie with a surgeon's knot. Ensure overhand knot is snugly against surgeon's knot.



63-698

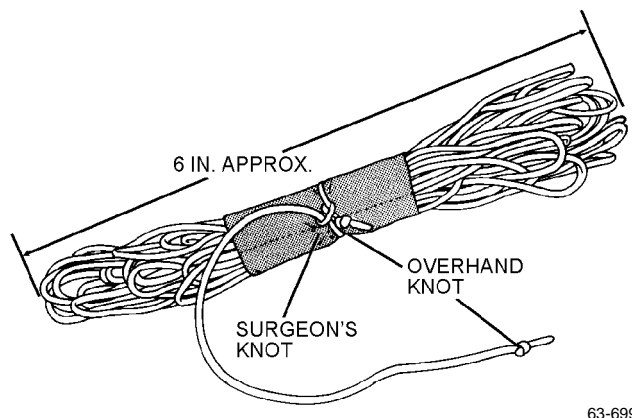
Step 8 - Para 3-22

9. Tie an overhand knot in each end of a 36-inch length of nylon cord. Wrap one end of cord two overlapping turns around end of signal flare (MK-13 MOD 0 or MK-124 MOD 0) and tie with surgeon's knot positioned snugly against cord-end overhand knot. Route cord to opposite end of flare. Wrap cord two overlapping turns around end of flare and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Cord between end-ties shall be drawn tight. Tie second flare in same manner.



Step 9 - Para 3-22

10. Accordion fold the 50-foot length of Type I nylon cord in 6-inch bights. Cut a 2 x 3-inch piece of nylon duck material, and wrap the material around the center of the folded cord. Tie an overhand knot in each end of a 12-inch length of nylon cord, and secure one end around the center of the nylon duck material with surgeon's knot. Ensure overhand knot is snugly against surgeon's knot.



Step 10 - Para 3-22

CAUTION

Ensure pointed end of can opener is wrapped with adequate chafing material to prevent damage to other survival items.

11. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass overhand knot through hole in can opener, and tie a bowline knot with a 1-inch loop. Ensure overhand knot is snugly against bowline. Wrap pointed end of can opener with chafing material and secure in place with a rubber band ([figure 3-6](#)).

12. Ensure survival items are properly tied.

13. Using the 140-inch length of Type I nylon cord, form a 3/4 to 1-inch overhand loop knot approximately 12 inches from one end. Continue forming these loops every five inches until a total of 12 loops are completed. Ensure a minimum of 25 (± 1) inches of cord remains after forming last overhand loop.

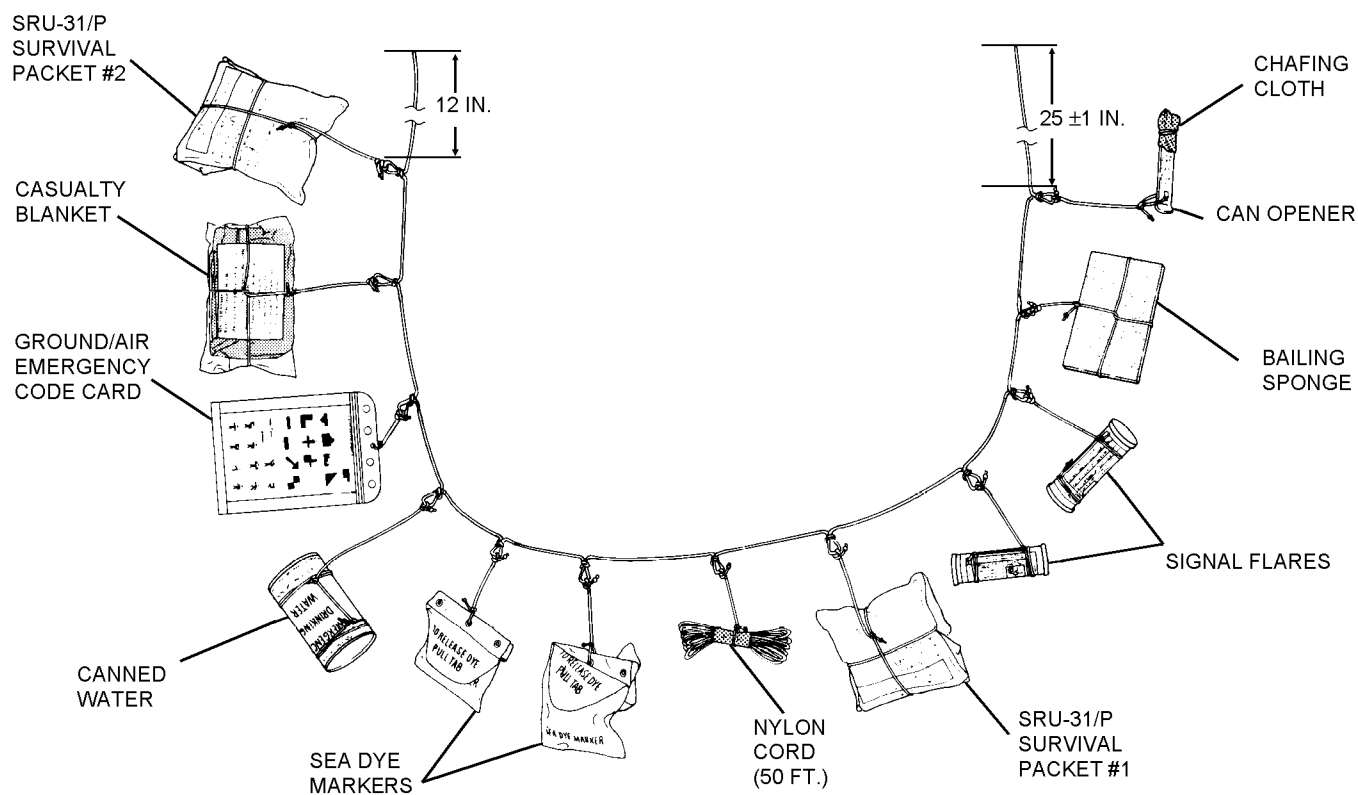
NOTE

Tie survival items to 140-inch cord in the order shown in [figure 3-6](#).

14. Tie each item to a loop with a surgeon's knot. Position cord-end knot snugly against surgeon's knot.

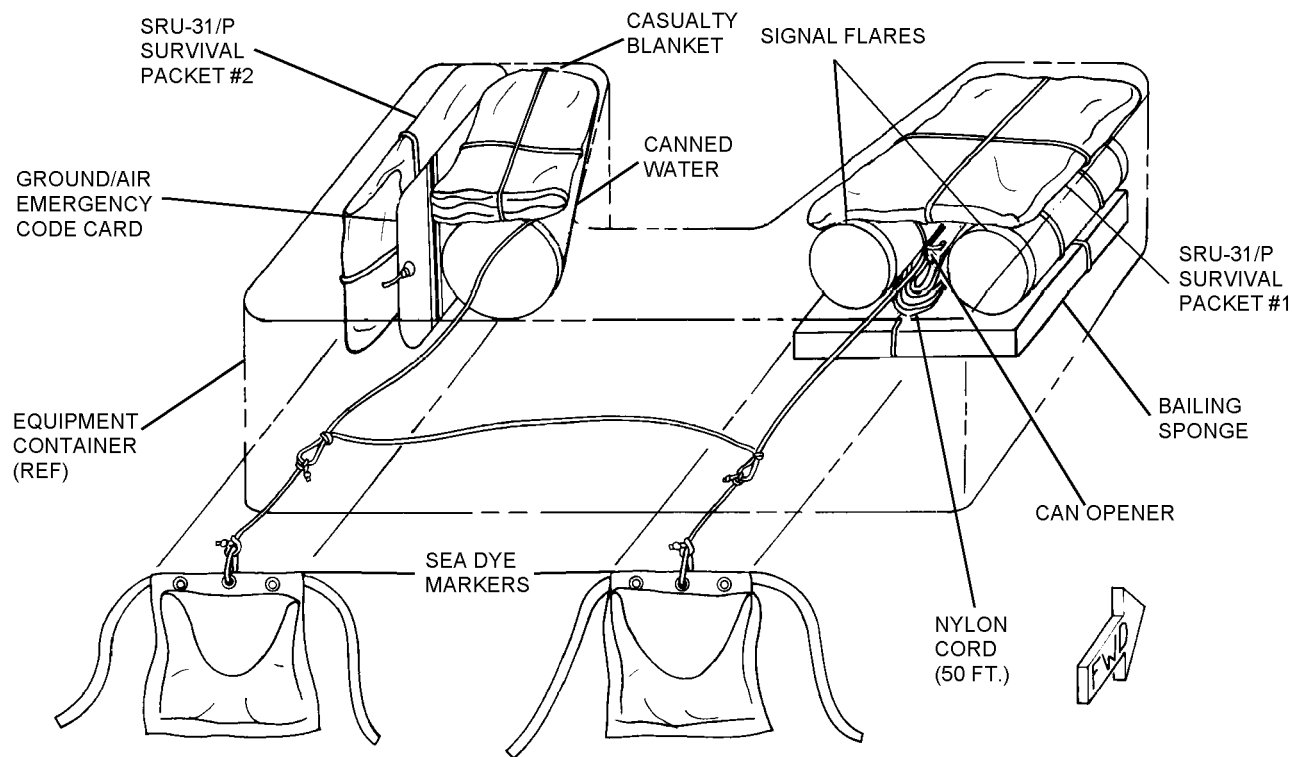
3-23. SURVIVAL EQUIPMENT PACKING. To pack survival equipment into the survival equipment container, proceed as follows ([figure 3-7](#)).

1. Place equipment container on table with attaching loops toward packer, and the word EQUIPMENT up.



63-945

Figure 3-6. Binding Survival Items



63-946

Figure 3-7. Stowing Survival Equipment

2. Attach bitter end (closest to can opener) of 140-inch length of nylon cord (with attached survival items) to the loop provided in the forward end of the right leg section of equipment container. Tie with a 2-inch loop bowline and an overhand knot. Ensure overhand knot is snugly against bowline.

3. Stow bailing sponge on bottom surface of the right leg pocket.

4. Place 50-foot length of nylon cord on top of sponge.

NOTE

Remove can opener if stowing bagged water.

5. Place can opener, point aft and down, on top of nylon cord.

6. Place a signal flare on top of sponge along each side of can opener and cord.

7. Stow SRU-31/P survival kit packet #1 on top of the two signal flares.

8. Place one dye marker vertically against equipment stowed in right leg.

9. Starting at opposite end of the 140-inch cord, place SRU-31/P survival kit packet #2 against outboard wall of left leg pocket.

10. Place can of water alongside the SRU-31/P packet.

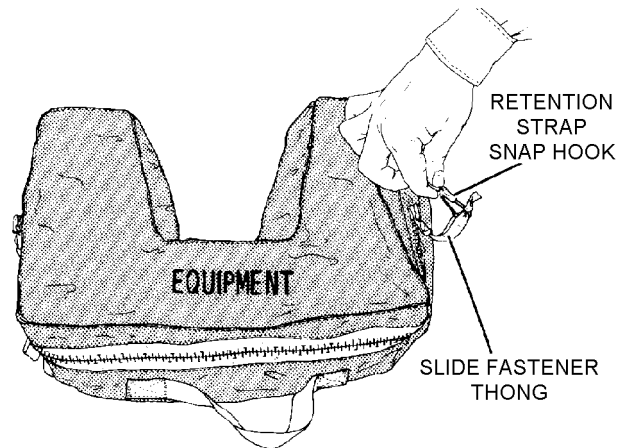
11. Fold Ground/Air Emergency Code card in half, and slide in between SRU-31/P packet and water can.

12. Place casualty blanket on top of water can.

13. Place second dye marker vertically against the equipment stowed in left leg.

14. Check stowage with [figure 3-7](#). Ensure all equipment is in leg pockets and a void space remains at aft end of equipment container.

15. Route equipment container retention strap snaphook out right side of equipment container. Close equipment container and connect retention lanyard snaphook to thong on slide fastener.



63-968

Step 15 - Para 3-23

NOTE

All tacking cord shall be coated with a mixture of 50% beeswax and 50% paraffin. The cord may be dipped in a melting pot 160° to 200° or drawn across a solid block of the mixture.

16. Place equipment container in forward section of lower container. Cut a 52 ± 1 -inch length of Type III nylon cord (MIL-C-5040), and sear ends. Secure cord to equipment container and dropline and tack ([figure 3-8](#)).

3-24. STOWING DROPLINE. To stow dropline in boots, proceed as follows:

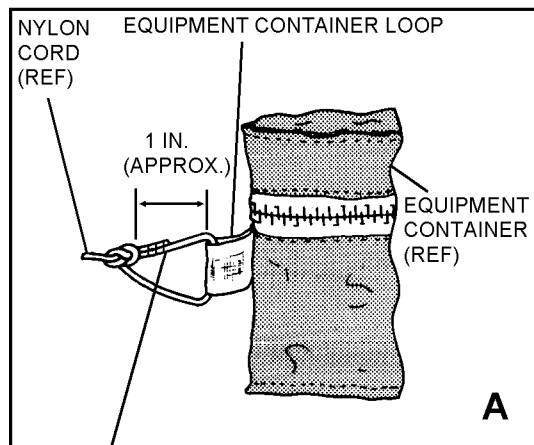
NOTE

Stowage boots are referred to as boot A and boot B for identification purposes only. There are no physical differences between boots and the letters A and B do not actually appear on them.

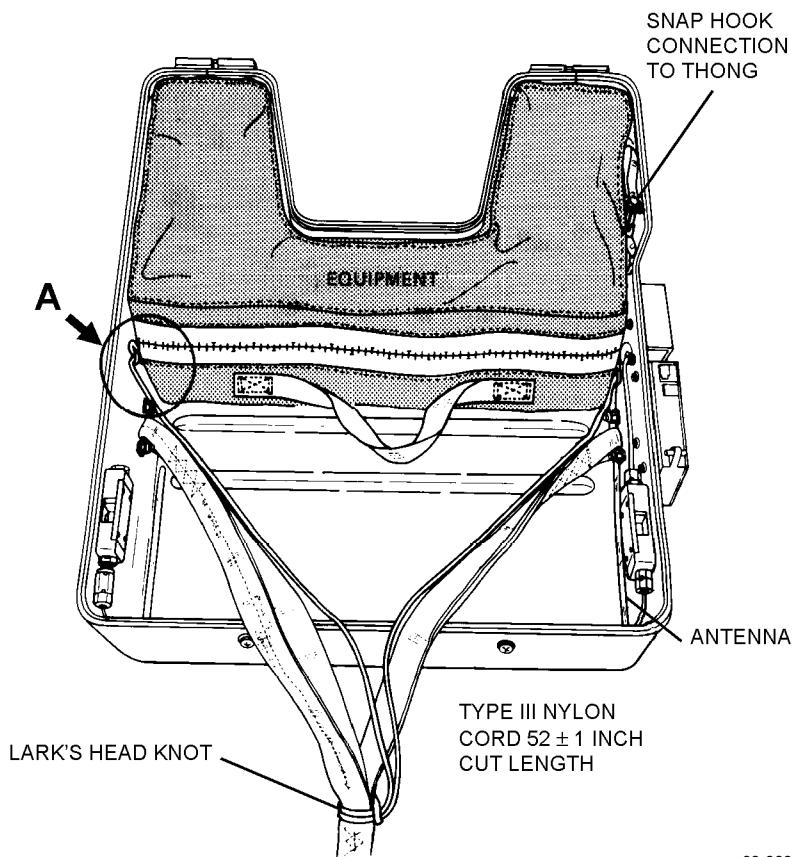
Numbers on stowage channels of boots correspond to dropline bights and the order in which they are to be stowed. Numbers appear in illustration for clarity, they do not actually appear on stowage boots.

The identification yarn on earlier fabricated dropline assemblies may be located on the underside of the webbing. However, procedural steps depicting identification yarn location will be reversed throughout the dropline stowage procedures for these assemblies. Future fabrication of the dropline for the SKU-2/A will be in accordance with [paragraph 3-71](#).

1. Lay dropline out flat between container halves with dropline loops up. Remove all twists from dropline prior to beginning stowing operation.



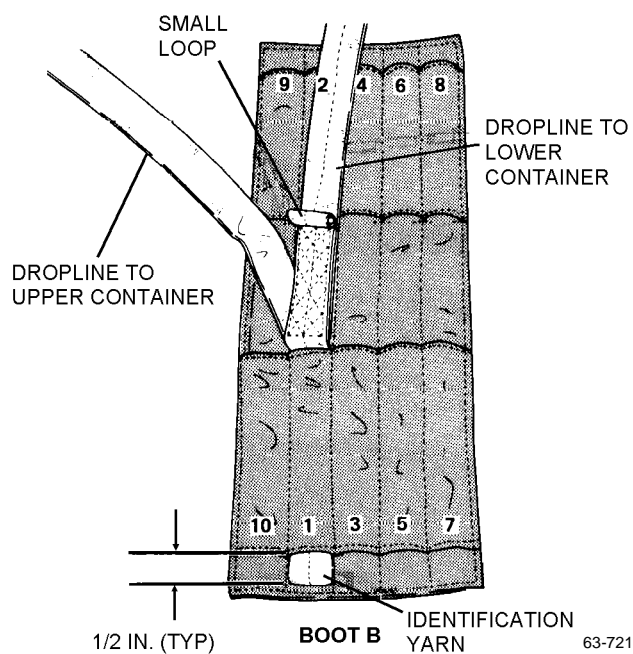
BOWLINE KNOT
TACKLING — 3 TURNS
SIZE E NYLON THREAD,
SINGLE, TIE ENDS WITH
SURGEON'S KNOT
FOLLOWED BY A
SQUARE KNOT



63-963

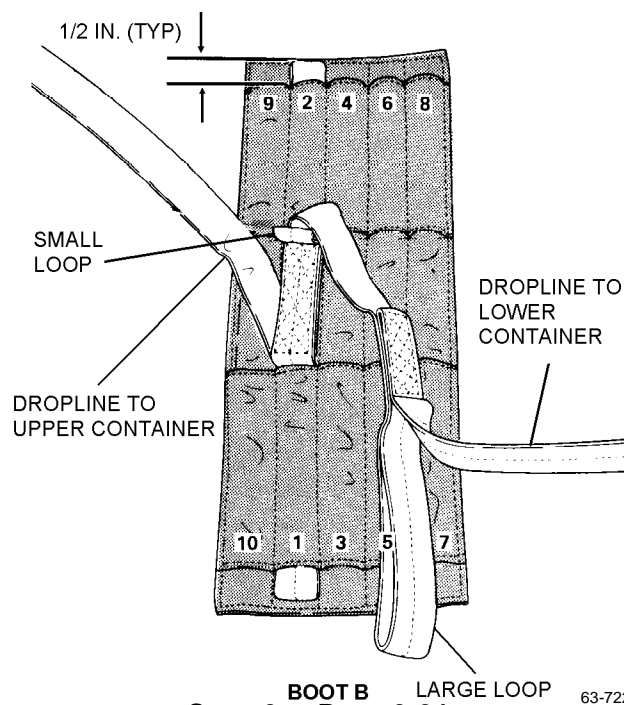
Figure 3-8. Stowed Survival Equipment Container

2. Position boot B to the left of lower container. Form the first bight 5 \pm 1/2 inch from base of small loop stitching. Bight shall be in portion of dropline going to upper container and small loop shall face up. Stow bight in channel 1 of boot B. Push bight into channel with a 7-inch length of 3/8-inch hardwood dowel tapered at one end. There shall be a 1/2-inch protrusion at end of channel and identification yarn shall be visible at protrusion.



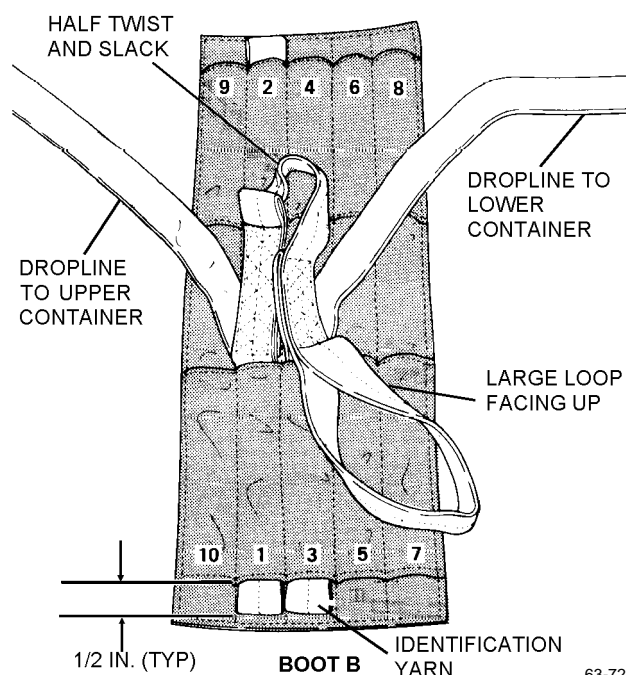
Step 2 - Para 3-24

3. Second bight shall be formed in portion of dropline going from small loop to large loop and shall be stowed in channel 2. Identification yarn shall not show at protrusion.



Step 3 - Para 3-24

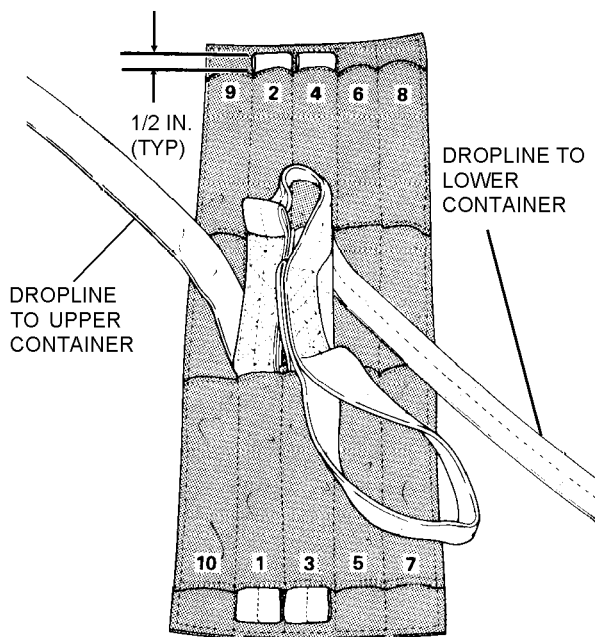
4. Place a half-twist in dropline by rotating clockwise so that large loop faces up. Stow third bight in channel 3. A small amount of slack may exist between bights 2 and 3. Identification yarn shall be visible at protrusion.



Step 4 - Para 3-24

NAVAIR 13-1-6.3-2

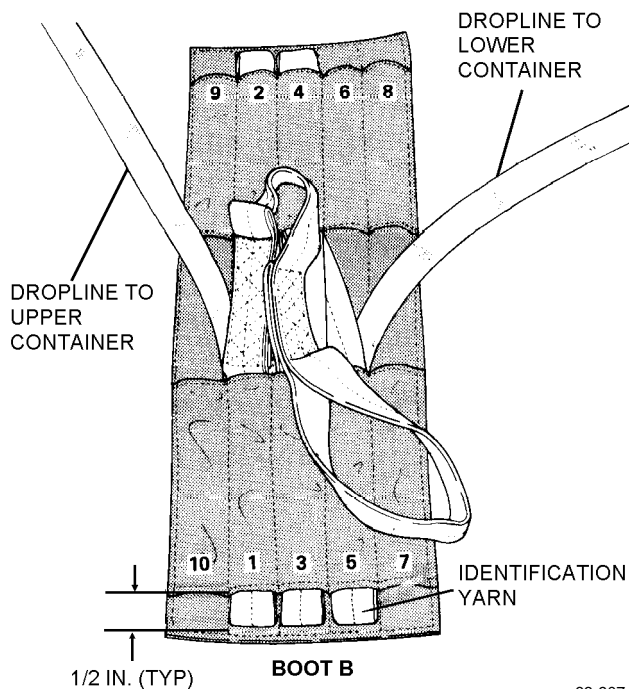
5. Stow fourth bight in channel 4, ensuring that identification yarn does not show at protrusion.



63-906

Step 5 - Para 3-24

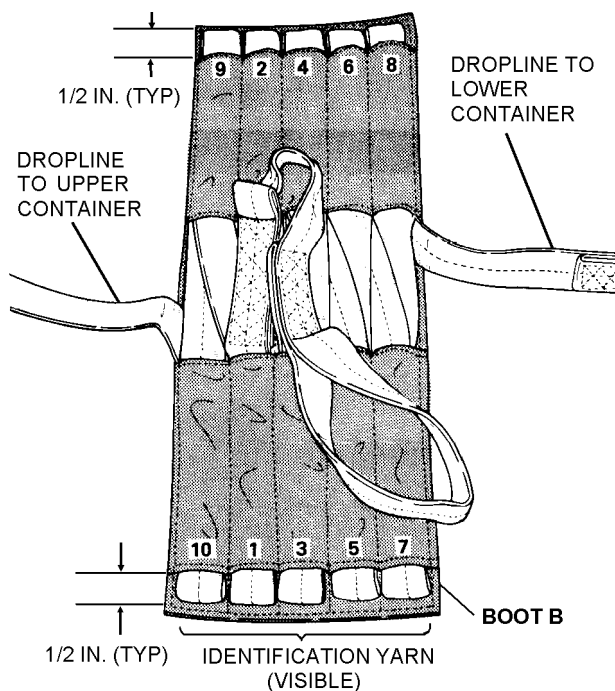
6. Stow fifth bight in channel 5, ensuring that identification yarn is visible at protrusion.



63-907

Step 6 - Para 3-24

7. Stow remainder of dropline in boot B in accordance with numbering sequence on boot as shown, maintaining 1/2-inch protrusion. If there is insufficient line, due to allowable tolerance in length of dropline, a full stow may be impossible in channel 8.



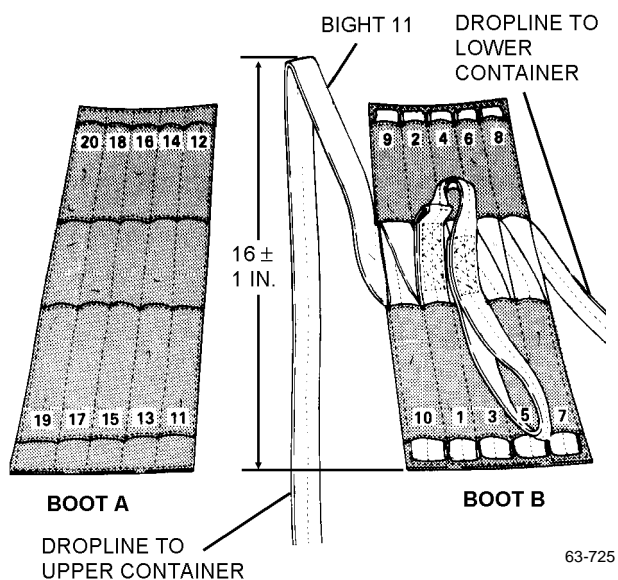
63-724

Step 7 - Para 3-24

NOTE

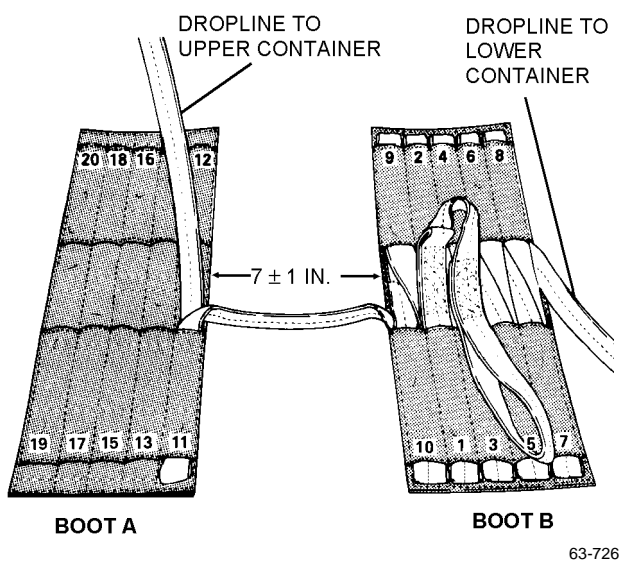
Upon the completion of [step 7](#), identification yarn shall be visible at channels 1, 3, 5, 7 and 10, and shall not show at channels 2, 4, 6, 8 and 9.

8. Form bight 11 in dropline 16 \pm 1 inch from bottom of last bight (bight 10) in boot B.



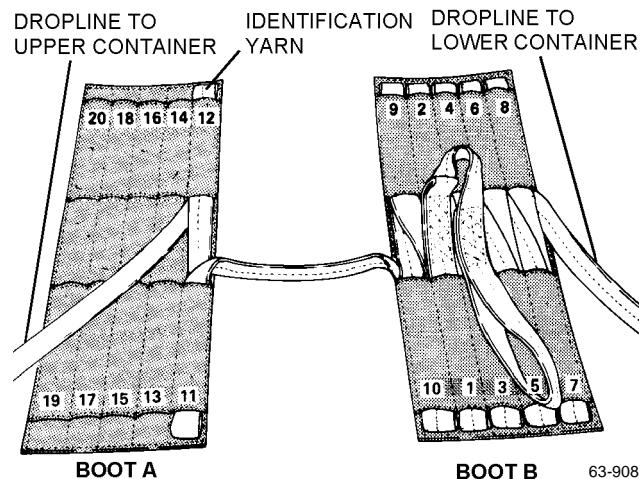
Step 8 - Para 3-24

9. Stow bight 11 (formed in [step 8](#)) in channel 11 of boot A. There shall be 7 \pm 1 inch of dropline between boots A and B when bight 11 is stowed. Identification yarn shall not show at protrusion.



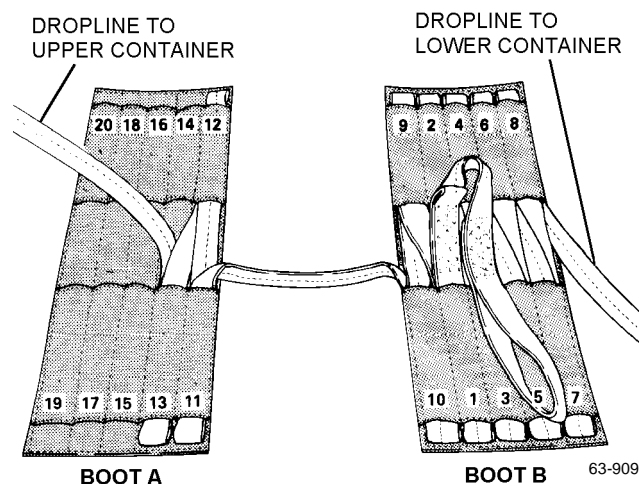
Step 9 - Para 3-24

10. Stow bight 12 in channel 12 of boot A. Identification yarn shall be visible at protrusion.



Step 10 - Para 3-24

11. Stow bight 13 in channel 13. Identification yarn shall not show at protrusion.



Step 11 - Para 3-24

12. Continue stowing bights in boot A until all line is stowed. Maintain 1/2-inch protrusion ([figure 3-9](#)).

NOTE

Upon the completion of [step 12](#), identification yarn shall be visible at channels 12, 14, 16, 18, and 20, and shall not show at channels 11, 13, 15, 17, and 19.

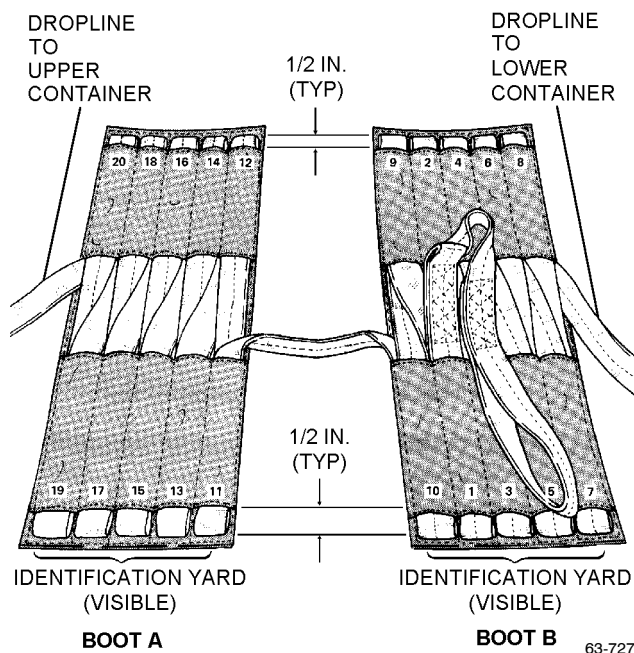


Figure 3-9. Stowage of Dropline

3-25. LIFERAFT PREPARATION, FOLDING, RIGGING AND PACKING. To prepare, fold, rig, and pack the LR-1 liferaft, proceed as follows:

Materials Required

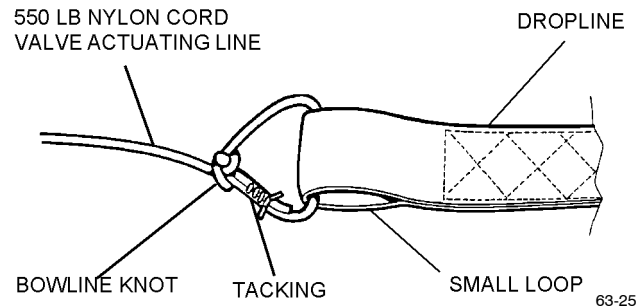
Quantity	Description	Reference Number
As Required	Cord, Nylon, 550-pound, Type III	MIL-C-5040 NIIN 00-240-2146
As Required	Thread, Nylon, Waxed, Size E	V-T-295
As Required	Powder, Talcom	MIL-T-50036

NOTE

If the valve actuating line is damaged, incorrectly installed, or not installed, install new line in accordance with [steps 1 and 2](#).

1. Cut 15-inch length of 550-pound Type III nylon cord (MIL-C-5040) and sear ends.

2. Route one end through small loop on dropline and tie bowline knot. Tack with three turns of waxed size E nylon thread (V-T-295), single. Tie ends with surgeon's knot followed by a square knot.



Step 2 - Para 3-25

3. Lay raft assembly flat with inside up and bow to the right.
4. Ensure all trapped air is expelled from raft, and oral inflation valve is locked and stowed in pocket.
5. Lightly dust entire raft with talcum powder (MIL-T-50036).
6. Secure sea anchor line in 3-inch bights. Fold and stow sea anchor and line in sea anchor pocket.
7. Position raft aft of lower container assembly.

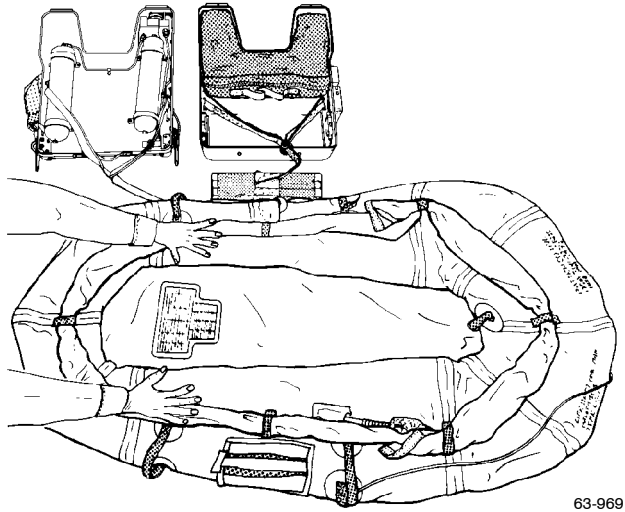
WARNING

Gas under pressure. Do not loosen or attempt to remove inflation valve assembly from carbon dioxide cylinder.

NOTE

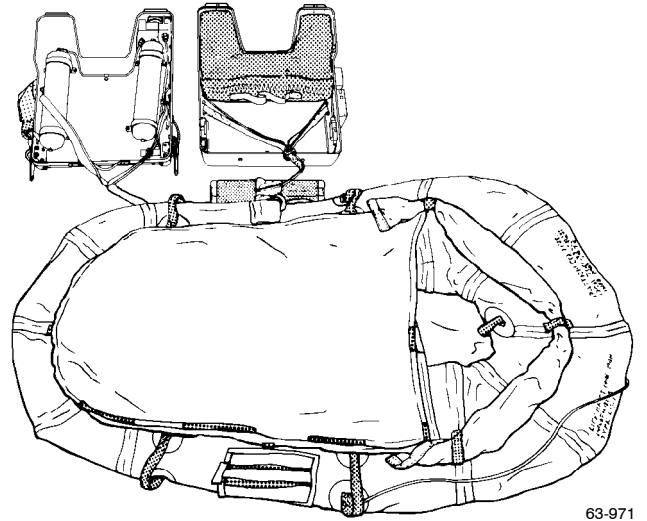
Ensure the CO₂ cylinder is in its storage pocket and the inflation valve is disconnected from the raft. Ensure the anti-chafing disc is in position on the inlet check valve.

8. Flatten all areas of the raft by hand as much as possible.



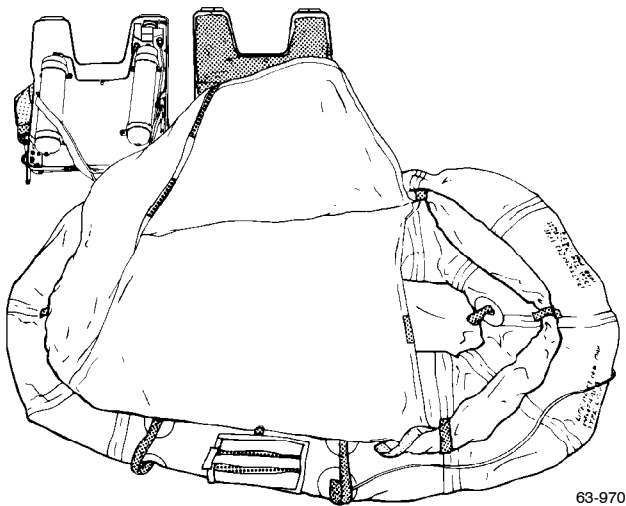
Step 8 - Para 3-25

10. Fold opposite end over onto previously folded portion. Flatten and remove wrinkles to obtain flattest condition.



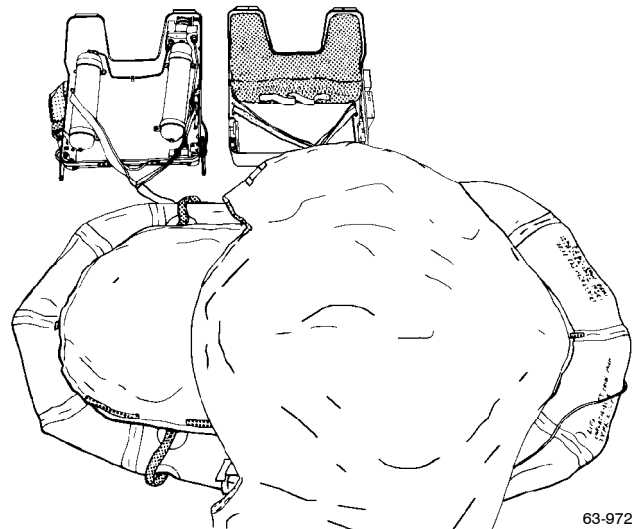
Step 10 - Para 3-25

9. Unfold weathershield on stern end of raft. Fold one end over and obtain the flattest condition possible.



Step 9 - Para 3-25

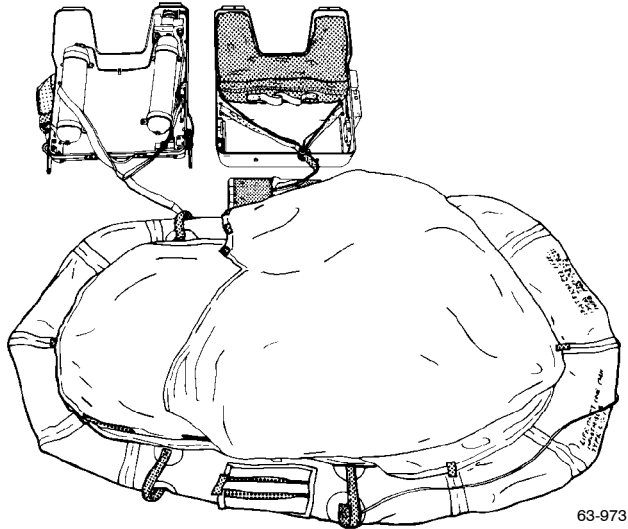
11. Unfold weathershield on bow end of raft.



Step 11 - Para 3-25

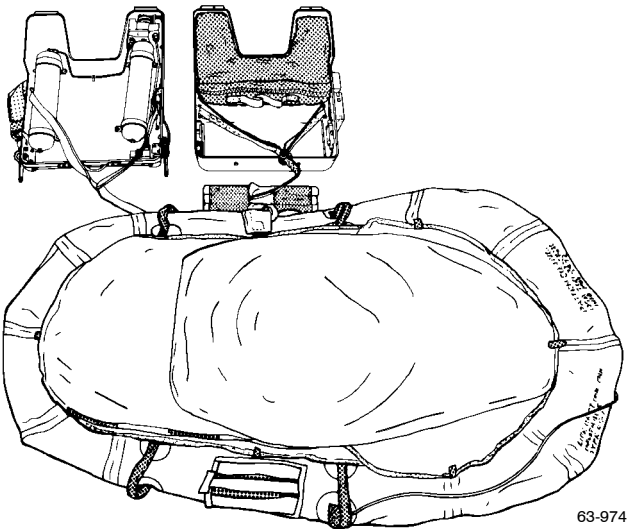
NAVAIR 13-1-6.3-2

12. Fold one side under to the approximate width of the folded portion of weathershield at the stern end of raft.



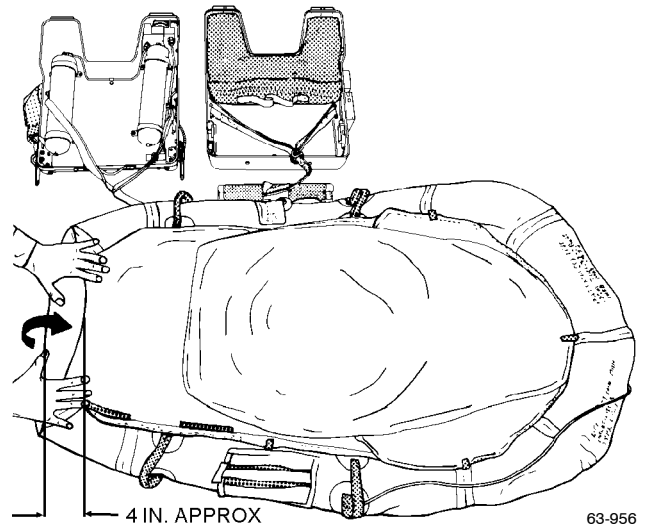
Step 12 - Para 3-25

13. Fold the opposite end under in same manner.



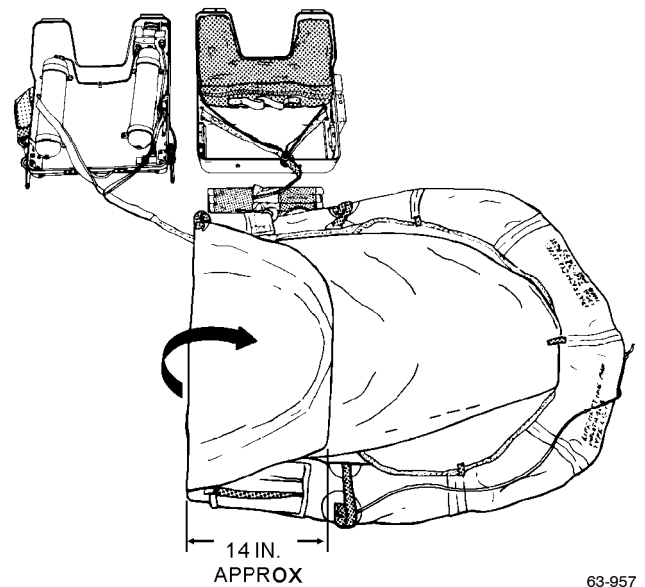
Step 13 - Para 3-25

14. Fold stern of raft over approximately 4 inches.



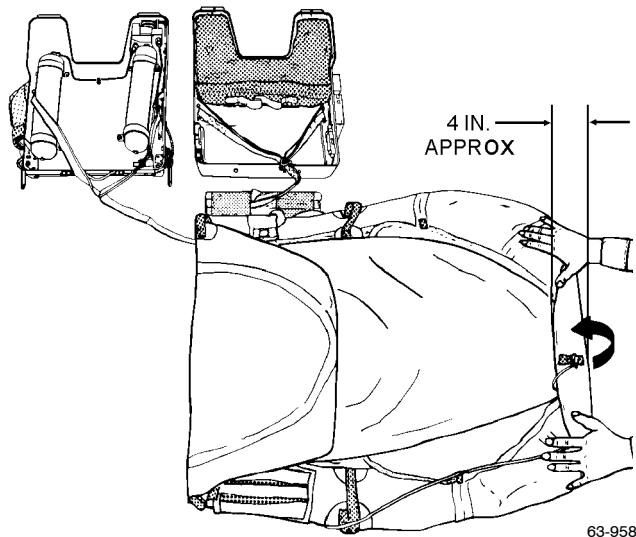
Step 14 - Para 3-25

15. Fold stern once again, making an approximate 14-inch dimension.



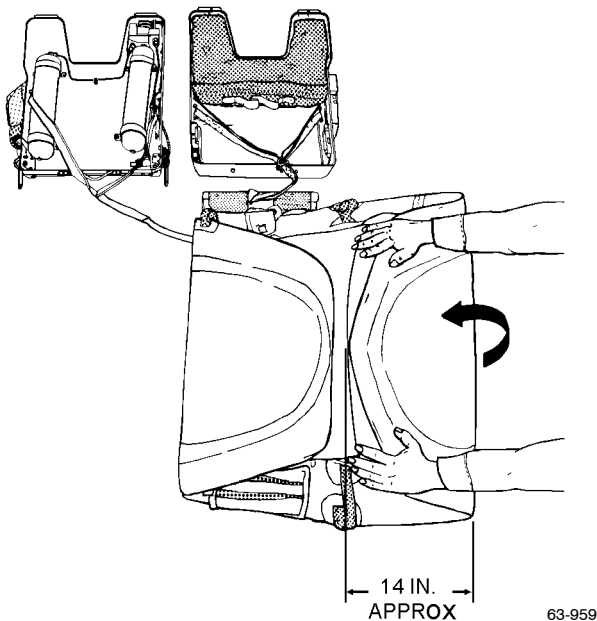
Step 15 - Para 3-25

16. Fold bow of raft over approximately 4 inches.



Step 16 - Para 3-25

17. Fold bow over again, making an approximate 14-inch dimension.

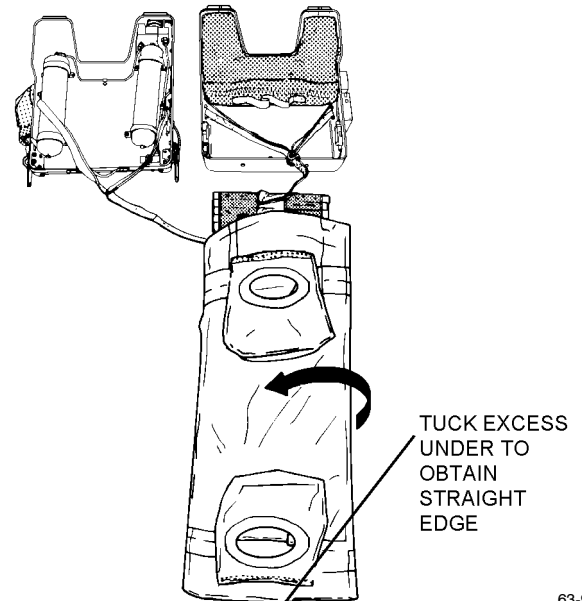


Step 17 - Para 3-25

NOTE

Width of folded raft must not exceed width of raft cover. Adjust as necessary.

18. Fold bow over stern. Tuck excess raft material under to form a straight edge. Fold and flatten ballast bags. Ensure width of folded raft is not greater than width of raft cover.



Step 18 - Para 3-25

19. Position liferaft on top of survival equipment container, ensuring ballast bags are down, with life-raft inlet valve facing up and located to the right.

WARNING

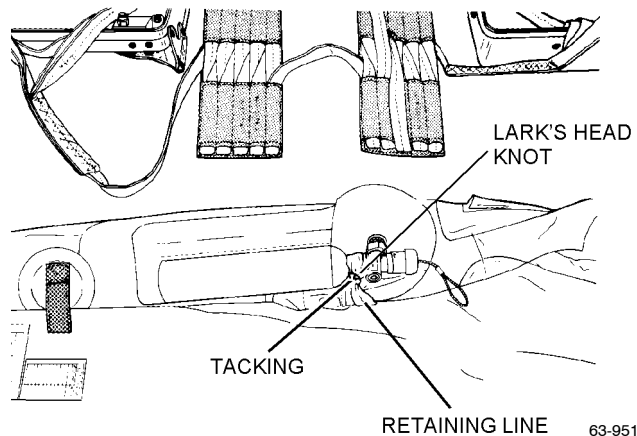
Gas under pressure. Do not loosen or attempt to remove inflation valve assembly from carbon dioxide cylinder.

NOTE

Ensure the CO₂ cylinder is in its stowage pocket and the inflation valve is disconnected from the raft. Ensure the anti-chafing disc is in position on the inlet check valve.

NAVAIR 13-1-6.3-2

20. Attach raft retaining line to cylinder with a lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord, single. Tie ends with surgeon's knot followed by a square knot.



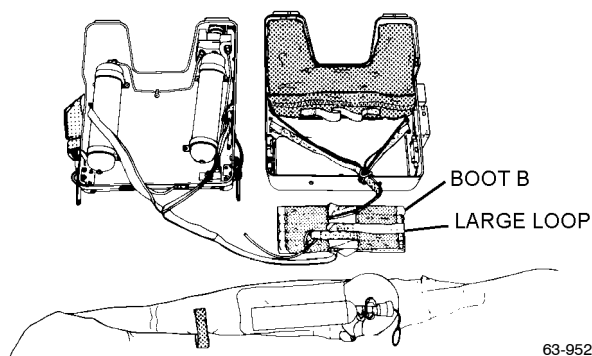
Step 20 - Para 3-25

21. Accordion fold remainder of raft retaining line and stow in raft retaining line pocket. Close pocket closure tab and secure hook and pile tape.

NOTE

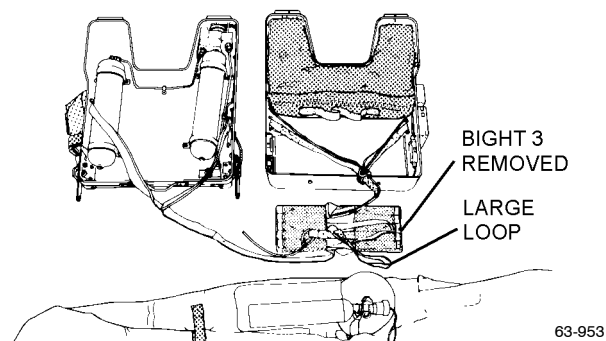
When repositioning boots, it may be necessary to move upper container. Make adjustments as necessary.

22. Position boot B on top of boot A and place boots between raft and lower container with large loop of dropline facing up and to the right.



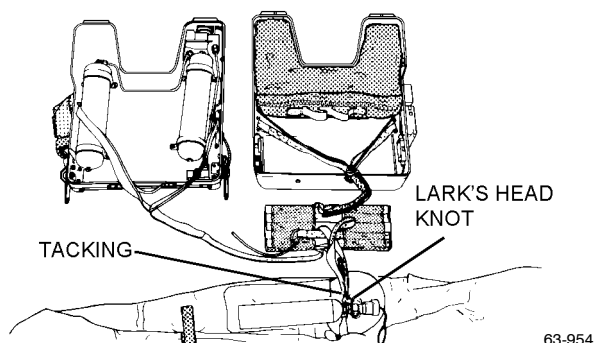
Step 22 - Para 3-25

23. Remove bight from channel 3, boot B.



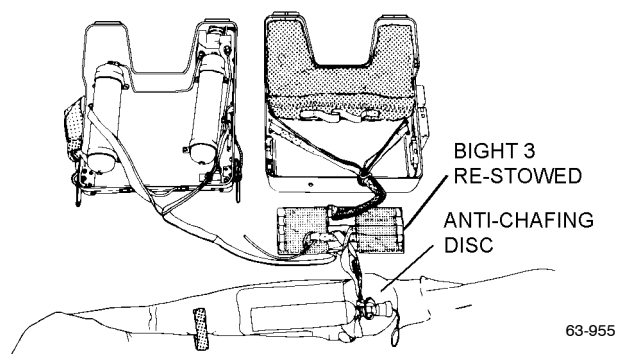
Step 23 - Para 3-25

24. Attach large loop of dropline around neck of cylinder with a lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord, single. Tie ends with a surgeon's knot followed by a square knot.



Step 24 - Para 3-25

25. Ensure CO₂ cylinder anti-chafing disc is installed. Attach inflation valve to liferaft inlet valve and tighten coupling nut to a torque value of 80 to 90 in-lbs. Stow bight removed from channel 3 of boot B. Bight will not extend full length of channel.

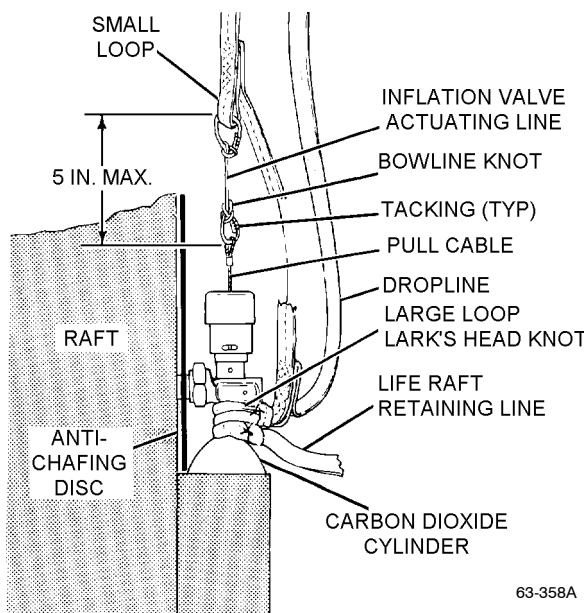


Step 25 - Para 3-25

WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

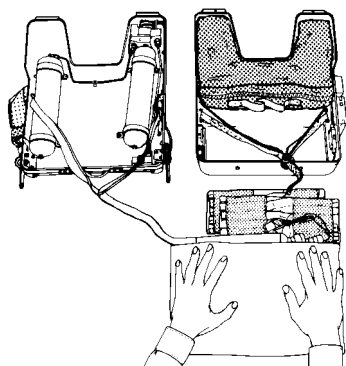
26. Pass valve actuating line through loop in end of pull cable and tie with a bowline knot. Tack with three turns of waxed size E nylon thread, single. Tie ends with surgeon's knot followed by square knot. Finished length shall not exceed 5 inches.



Step 26 - Para 3-25

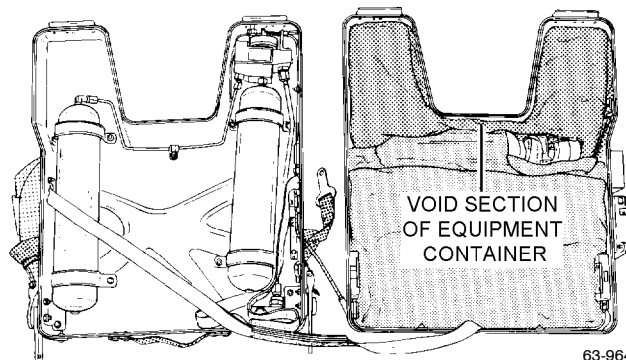
27. Ensure that the dropline and valve actuating line are not twisted or entangled.

28. Grasp liferaft and flip toward you, rotate CO₂ cylinder around to butt up against survival items. CO₂ cylinder should be positioned parallel with equipment container.



Step 28 - Para 3-25

29. Starting with the liferaft edge closest to you, fold over until even with bottom aft edge of container. Fold remainder of raft into container. The top fold and top of cylinder should be even.

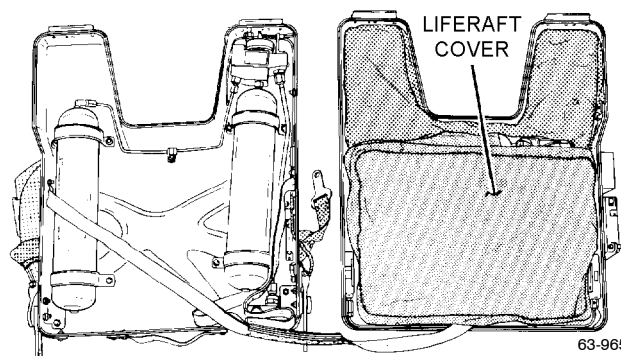


Step 29 - Para 3-25

NOTE

Some raft adjustment may be required at this point to obtain flattest condition. A liferaft packing aid may be fabricated in accordance with [paragraph 3-74](#).

30. Place cover over raft. Tuck in completely around raft. Ensure raft material does not extend beyond cover, and cover does not extend beyond edges of container.



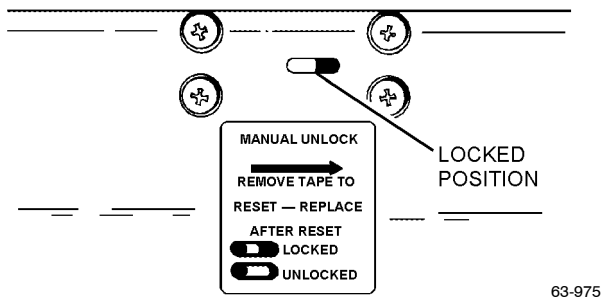
Step 30 - Para 3-25

3-26. CLOSING CONTAINER. To close the container, proceed as follows:

NOTE

Top section of dropline may be laid on top of raft cover after packing.

- 1. Insert release handle into latching mechanism before latching two sections of survival kit.
- 2. Engage hinge assemblies on lid with hinge assemblies on lower container.
- 3. Check latches for obstructions.
- 4. Press lid firmly down onto lower container.
- 5. Verify positive latching by viewing engagement of latches through inspection ports on each side of lower container and comparing with instruction label.



Step 5 - Para 3-26

- 6. Perform release handle pull test (paragraph 3-27).
- 7. Charge oxygen system in accordance with paragraph 3-40.
- 8. Remove plug (8, figure 3-27).



If reducer toggle has been twisted or forced beyond vertical (cocked) position, carefully reposition toggle. If cables/cable balls are not properly positioned, open SKU-2/A and position cables so that toggle is free to move.

- 9. Using flashlight, visually inspect position of reducer toggle (22, figure 3-29); ensure toggle is in vertical (cocked) position relative to reducer. Also, check position of cable balls (81 and 90, figure 3-27); ensure cables/cable balls are not wrapped around reducer toggle and jammed against inside of kit lid.
- 10. Reinstall plug removed in step 8.
- 11. If required, close kit in accordance with steps 1 through 6.
- 12. Ensure manual emergency oxygen handle is properly secured so that ring portion protrudes in open space between equipment cavities of survival kit and will be readily accessible even after thigh pad installation.
- 13. Attach cushion and thigh pads to upper container.
- 14. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

3-27. Release Handle Pull Test. To perform the release handle pull test, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type I	MIL-C-5040

Support Equipment Required

Quantity	Description	Reference Number
1	Dial Push/Pull Gage, 0 to 50 Pounds	DPPH50 (CAGE 11710)

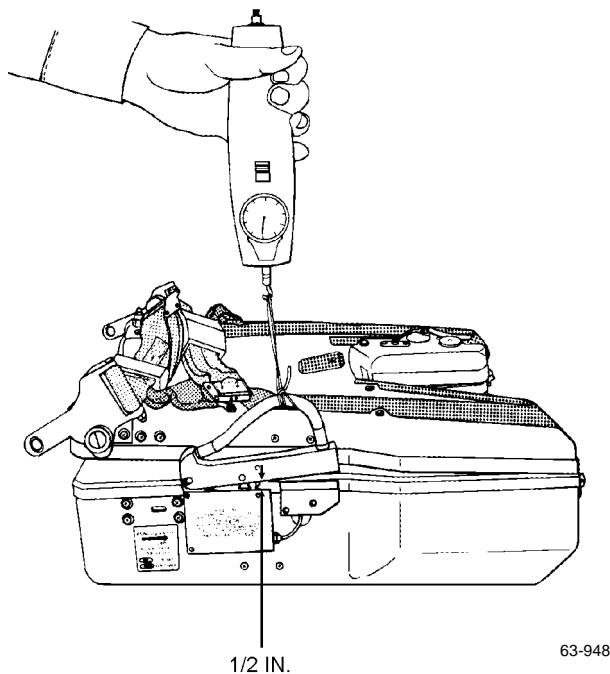
1. Attach a length of Type I nylon cord to the release handle at a point approximately 4 1/2 inches forward of the handle pivot point. Attach the hook on the DPPH50 push/pull gage to the cord.

NOTE

Do not exert downward pressure in the latch area while performing pull test. If necessary to steady kit, place hand in center of kit. Use minimum pressure.

The length of travel of the release handle must be measured while performing the pull test.

2. Apply a steady upward pull and note force required to unlock latches. Force required to unlock latches in the first 1/2 inch of travel, measured at the engagement link, shall be 10 to 30 pounds, and the handle shall pull free of the engagement link. If failure occurs refer to [table 3-7](#).



Step 2 - Para 3-27

3. Remove push/pull gage and cord from the handle.

4. Reinstall release handle in release mechanism to reset latches. Close kit.

5. Check for proper engagement of latches through inspection ports.

3-28. DELETED

Figure 3-10. Deleted
Figure 3-11. Deleted

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Section 3-4. Turnaround/Daily/Preflight/Postflight/Transfer/Special/ Conditional Inspection

3-29. GENERAL.

3-30. The Turnaround/Daily/Preflight/Postflight or Transfer Inspections consist of a visual type inspection performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. These inspections shall be performed by line personnel (plane captain) or delegated aircrewmembers who have been instructed and found qualified by the Aviator's Equipment Branch.

3-31. The Conditional Inspection is an unscheduled inspection required as the result of a specific situation or set of conditions; e.g., hard-landing inspections or any inspection directed by higher authority that is not ordered in technical directive.

3-32. The Special (7/14 day, etc.) Inspection shall be performed on inservice survival kits installed in aircraft and in ready room issued. This inspection shall be performed at the Organizational Level of maintenance by personnel assigned to the Aviator's Equipment Branch. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

3-33. TURNAROUND/DAILY/PREFLIGHT/POST-FLIGHT/TRANSFER AND SPECIAL INSPECTION PROCEDURES. Each of these inspections consists of a visual inspection of the following:

1. Seat kit fit in ejection seat bucket.
2. Release handle for proper seating and corrosion.
3. Cushion for secure attachment, rips, tears, and loose or frayed stitching.
4. Remove left side thigh support cushion and reducer toggle access plug. Using flashlight, visually inspect position of toggle; ensure toggle is in vertical (cocked) position relative to reducer. Also, check cables/cable balls for proper routing and engagement; ensure cable balls are not jammed against lid of kit.
5. Check oxygen gauge for Full indication.
6. Replace access plug and thigh support cushion.
7. Harness assemblies for loose or frayed webbing, stitching, and cracked or broken hardware.
8. Lapbelt release assembly for loose or missing screws and corrosion.
9. Manual emergency oxygen release and cable for condition and security of attachment.
10. Automatic emergency oxygen lanyard coupling assembly for spring security. Ensure that cable coupling has not separated from cable.
11. Automatic emergency oxygen lanyard for secure attachment to personnel service disconnect block.
12. Container assembly for cracks, breaks, and other obvious damage.
13. Beacon actuator indicator for bent shaft, hair-pin cotter for elongation and corrosion, and proper mousing.
14. Secure attachment of beacon automatic actuation lanyard to aircraft deck.
15. Secure attachment of negative g-lock.
16. Condition of oxygen hose and secure attachment to kit. If repair procedure has been performed on oxygen hose assembly, check external wiring for secure attachment.

3-34. If discrepancies are found or suspected, Maintenance Control shall be notified.

3-35. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready For Issue (RFI) survival kit. Non RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 3-5. Acceptance/Phased/SDLM/PDM Inspection

3-36. GENERAL.

3-37. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or at the time a reporting custodian accepts a newly assigned aircraft from any source, and on return of an aircraft from SDLM/PDM or other major D-level rework. The Phased/SDLM/PDM Inspection cycle of the survival kit shall be 448 days for the F-14 aircraft and 364 days for the EA-6B aircraft. In no case, however, shall the phased interval exceed 448 days for the F-14 aircraft and 364 days for the EA-6B. The battery test inspection cycle for the AN/URT-33A Radio Beacon is dependent upon the type of the battery installed. Refer to NAVAIR 16-30URT33-1 for battery test inspection cycles and requirements. For acceptance inspection purposes, verification of pyrotechnics and configuration is accomplished by visual record examination only. Disassembly beyond the daily inspection requirements of applicable publications is not required. Activities may elect to increase the depth of inspection if equipment condition, visual external inspection, or record examination indicates such action is warranted.

3-38. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Visually check kit for the following:

- 1. Cushion for rips, tears, loose or frayed stitching, and general condition.
- 2. Surface unclean, rough, misaligned, or container cracks, nicks, or other flaws.
- 3. Condition and security of hook and pile tape.
- 4. Release handle for wear, corrosion, and damage.
- 5. Webbing for cuts, loose or frayed stitching, and security of attachment.
- 6. Lapbelt release assembly for loose or missing screws and corrosion.
- 7. Hoses for cracks and deterioration.
- 8. Material imperfections, foreign matter embedded, burrs or sharp edges inside and outside kit, or other faulty workmanship.
- 9. Any component loose or otherwise not securely retained.

- 10. Any functioning part that operates with difficulty.
- 11. Evidence of oil preservatives or hydrocarbon materials on emergency oxygen system components or hoses.
- 12. Markings (missing, insufficient, incorrect, illegible, not permanent).
- 13. Cable assemblies for rust or corrosion.
- 14. Swaged balls on cable assemblies for security of attachment.
- 15. Negative g-lock striker fitting for secure attachment.
- 16. Lubricant on upper container lid lock hook surfaces.

3-39. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of the kit. To perform a functional check, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth	MIL-C-85043 NIIN-00-044-9281
Support Equipment Required		
Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) or 31TB1995-1 (CAGE 99251)
1	Dial, Push/Pull Gage, 0-50 Pounds	DPP-50 (CAGE 11710)
1	Toggle Reset Tool	Fabricate IAW Figure 3-70

CAUTION

Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures or damage to seat kit may result. After repair, the entire test procedure shall be performed.

NOTE

Performance of test stand is dependent upon skill of operator. It is imperative that operator be thoroughly familiar with instruments, controls, and connections that comprise systems incorporated in test stand. See NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 to familiarize yourself with 59A120 or 31TB1995 series liquid oxygen converter test stands.

Emergency oxygen cylinder pressures used in this functional test were derived under ideal shop conditions of 70°F (21°C). Variances in ambient air temperatures directly affect charging pressures. Refer to [table 3-6](#) for details.

Ensure that emergency oxygen cylinder is filled to 1800 to 2000 psi.

1. Remove bell jar and connect oxygen outlet hose of kit to fitting (C-1) and ensure that valve (V-2) is open and all other test stand valves are closed ([figure 3-12](#)).

2. Attach push/pull gage to manual emergency oxygen release handle.

3. Measure force required to disengage manual oxygen release. Force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psi on test stand gage (PG-1).

4. Reset reducer assembly.

5. Turn on oxygen supply cylinder to test stand.

6. Slowly open valve (V-6) on test stand and adjust pressure on gage (PG-1) to 90 psi.

7. Measure the force required to disengage the manual oxygen release with a push/pull gage. Force required shall be 10 to 30 pounds.

NOTE

Any degree of leakage in the oxygen system requires corrective maintenance.

WARNING

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

8. Use leak detection compound to check all pressure lines and fittings on survival kit to ensure no leakage.

9. Reset reducer assembly.

CAUTION

Do not increase pressure above 150 psi.

10. Using valve (V-6) increase pressure until relief valve unseats.

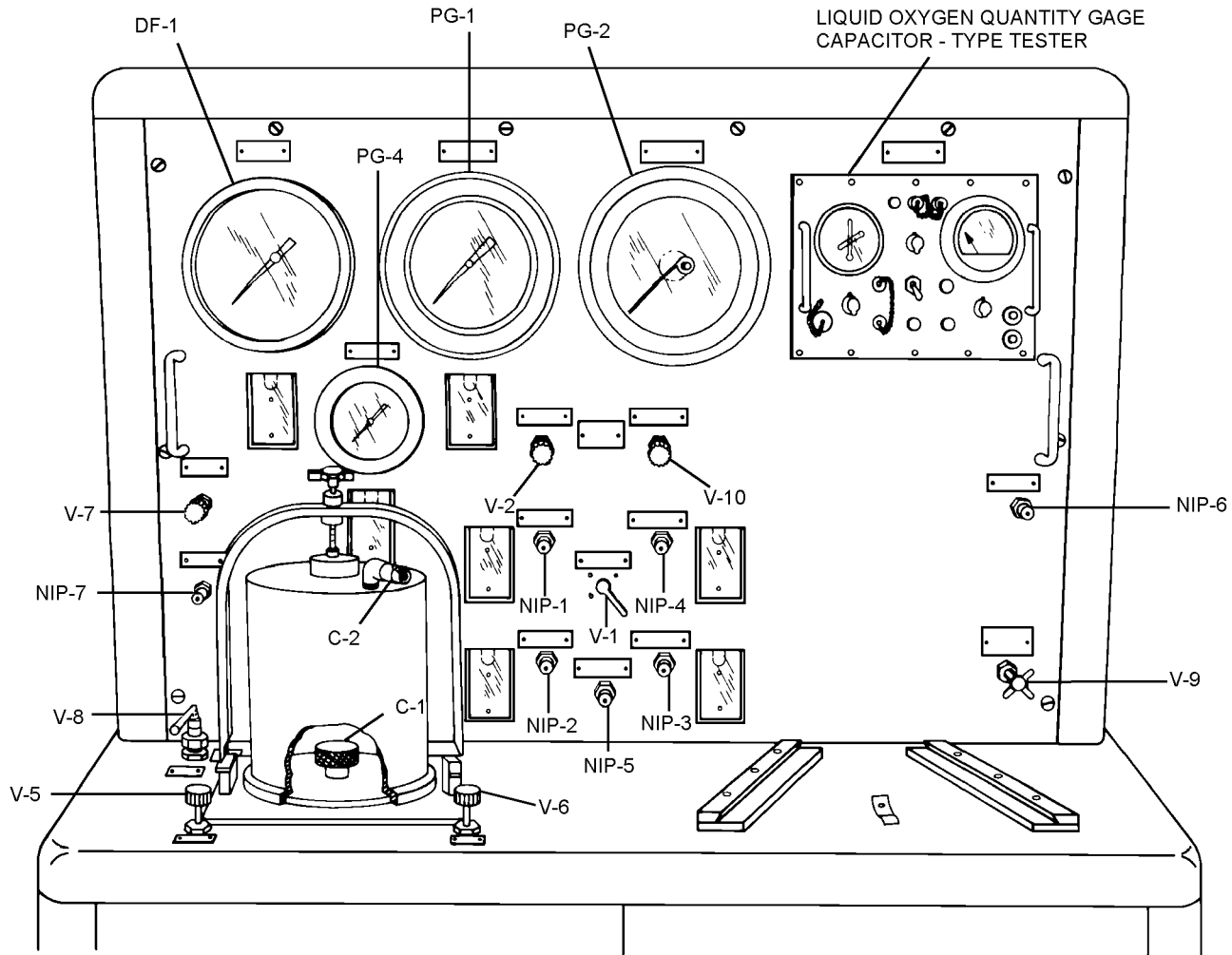
NOTE

Unseating can be determined by listening and observing gage (PG-1) on test stand.

11. Repeat [step 10](#) several times to establish a correct pressure. Relief valve shall unseat at 120 to 140 psi when pressure is increased, and reseal at 110 psi minimum when pressure is decreased. Once resealed, relief valve shall be leak tight, (no indication on PG-1 of pressure drop).

NOTE

Pressure may be reduced below opening pressure of the relief valve by closing valve (V-6) and opening valve (V-5).



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 - 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 - 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 - 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 - 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 - 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 - 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 - 160 PSIG TEST PRESSURE GAGE		

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Figure 3-12. Test Stand Model 59A120

12. Close valve (V-6) and bleed oxygen pressure from system by opening valve (V-5). All pressure is bled when gages (PG-1) and (PG-4) indicate zero pressure.

13. Close valve (V-5).

14. Ensure valve (V-2) is opened and all other test stand valves are closed.

15. Measure force required to disengage automatic oxygen release with a push/pull gage. Force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psi on gage (PG-1) on test stand. Reset reducer assembly.

16. Open valve (V-5), and ensure that all other test stand valves are closed.

17. Actuate toggle on reducer to ensure positive flow through valve (V-5). Reset reducer assembly.

18. Open valve (V-8).

19. Slowly close valve (V-5) while observing gage (DF-1).

NOTE

Observe gage (DF-1) for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires corrective maintenance.

20. Close valve (V-8), open valve (V-5), and disconnect oxygen outlet hose from fitting (C-1).

21. Ensure all valves on the test stand are secured.

22. Connect oxygen outlet hose to fitting (NIP-6). Ensure that valve (V-10) is open and all other test stand valves are closed.

23. Connect test stand hose to fitting (NIP-5) and fitting (NIP-4).

24. Move valve (V-1) to the NIP-4 position.

25. Ensure that 1800 to 2000 psi is in the oxygen cylinder of the kit.

26. Pull manual oxygen release. Oxygen pressure on gage (PG-1) shall indicate 45 to 80 psi.

27. Slowly open valve (V-9) to indicate 90 LPM on gage (PG-2). Oxygen pressure shall indicate 45 to 80 psi on gage (PG-1).

NOTE

When needle of cylinder pressure gage is between the E and F of REFILL, pressure is approximately 250 psi.

28. Observe emergency oxygen cylinder pressure gage and allow the system to decrease to 250 psi while maintaining 90 LPM flow and 45 to 80 psi pressure.

29. Close valve (V-9).

30. With zero flow indicated on gage (PG-2), pressure indicated on gage (PG-1) shall be 45 to 80 psi.

31. Reset reducer assembly.

32. Bleed oxygen pressure from system by opening valve (V-5) and (V-2). All pressure is bled when gages (PG-1) and (PG-4) indicate zero pressure.

33. Disconnect kit from test stand.

34. Secure test stand.

35. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

36. Recharge emergency oxygen cylinder to 1800 to 2000 psi. Refer to [paragraph 3-40](#) for charging procedures.

3-40. PURGING AND CHARGING EMERGENCY OXYGEN SYSTEM. To purge and charge the emergency oxygen system proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Nitrogen, Type I, Class 1, Grade B	BB-N-411
As Required	Aviator's Breathing Oxygen, Type I	MIL-O-27210

Support Equipment Required

Quantity	Description	Reference Number
1	Oxygen Purging Electric Heater	C5378 (CAGE 96787) or equivalent
1	Shut-off Valve	—
1	Pressure Regulator	—
1	Adapter, Filling (Optional)	21000-T130-1 (CAGE 53655)

WARNING

Servicing of emergency oxygen system is accomplished only after removal of survival kit from aircraft.

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

1. If survival kit assembly has not been removed from aircraft, remove in accordance with applicable maintenance manual.

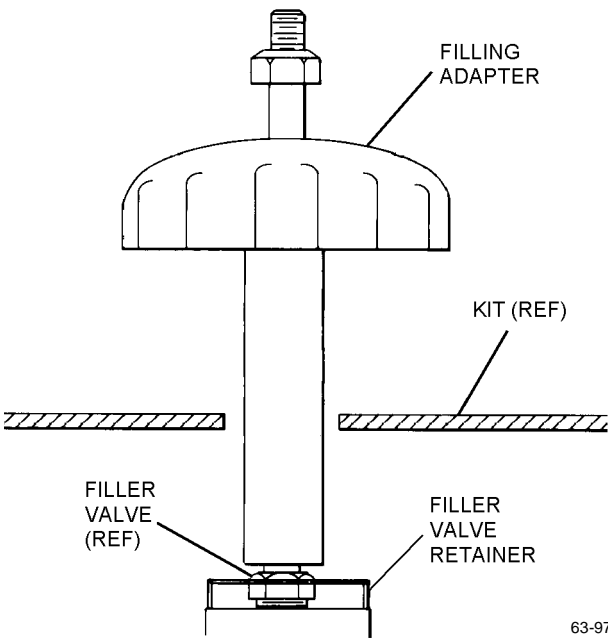
WARNING

If necessary to release pressure in oxygen system before purging/filling, pull emergency oxygen lanyard. This releases pressure through pressure reducer. DO NOT release pressure through filler valve or adapter. Releasing high-pressure oxygen through restriction of filler valve causes heat. Fire or explosion may result.

NOTE

Use of filling adapter on SKU-2/A survival kits is optional.

2. Remove oxygen filler valve cap and connect filling adapter to filler valve.



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Step 2 - Para 3-40

NOTE

If emergency oxygen system is contaminated or system has remained empty for more than 2 hours, purging is required. If emergency oxygen system does not warrant purging process, proceed to [step 10](#) for charging sequence.

3. Deplete emergency oxygen system if necessary.
4. Connect nitrogen source to filling adapter/filler valve, and close pressure reducer.

NOTE

If relief valve on Oxygen Purging Electric Heater will not allow 100 psi, raise pressure only to allowable limit.

5. Slowly pressurize to 100 psi with nitrogen at temperature of 110 to 130 degrees C (230 to 266 degrees F) using electric heater.
6. Turn off nitrogen source and deplete oxygen system.
7. Repeat [steps 5](#) and [6](#), twice.
8. With pressure reducer open, turn on nitrogen source and purge for 10 minutes at temperature of 110 to 130 degrees C (230 to 266 degrees F).
9. Turn off nitrogen source and disconnect.
10. Connect oxygen source to filling adapter/filler valve with suitable pressure regulator and shut-off valve.

WARNING

When resetting reducer toggle ensure toggle is in the vertical (cocked) position and ensure cables and cable balls are not wrapped around reducer toggle and jammed against the inside of the kit lid.

11. Reset pressure reducer toggle and ensure toggle is in the vertical (cocked) position and cables

and cable balls are not wrapped around reducer toggle and jammed against the inside of the kit lid.

12. Slowly pressurize to 100 psi.
13. Deplete cylinder to 50 psi.

WARNING

Observe filling stages as rapid application of oxygen pressure creates heat which may result in fire or explosion. Allow no less than 3 minutes for each filling stage and 2 minute intervals for cooling between stages.

NOTE

If kit is to be stored, the emergency oxygen bottle shall be depleted or filled to 200 PSI (when needle on gage bisects E of REFILL). For shipping, fill or deplete to 25 PSI using the gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with [table 3-5](#) until pressure gage indicates correct pressure for existing ambient temperature ([table 3-6](#)).

Table 3-5. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

Table 3-6. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

15. Loosen filling adapter (if installed) until all pressure is bled from high-pressure line. Remove filling adapter.

18. If the seat survival kit assembly was removed from the aircraft in [step 1](#), reinstall using the applicable aircraft maintenance manual.

Section 3-6. Maintenance

3-41. GENERAL.

WARNING

Keep working area clean and free of oil, grease and dirt. Do not attempt to perform any component removal with the oxygen system pressurized.

3-36 Change 3

WARNING

Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Also compound exhibiting peculiar odors such as acetone or alcohol is considered contaminated and shall be disposed of.

NOTE

Alternate Fill Valve P/N 9120097-27 is coreless and has a maximum leakage rate of 1 cc/hr. This will be evident by very tiny bubbles passing through the top of the valve when leak detection compound is applied level to top rim. No leaks around threads are acceptable. If large bubbles are evident, contact survival kit FST for disposition.

16. Examine leak detection compound then apply around connection points of oxygen gage, reducer, and filler valve. Check for leaks. Then thoroughly wipe clean and dry with lint-free cloth, filtered low-pressure compressed air, or low pressure oxygen.

17. Reinstall oxygen filler valve cap on filler valve.

18. If the seat survival kit assembly was removed from the aircraft in [step 1](#), reinstall using the applicable aircraft maintenance manual.

3-42. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment. Work shall be performed in a clean, dust and grease-free area.

NOTE

Disassembly shall be only to extent necessary to perform required task.

3-43. TROUBLESHOOTING.

3-44. Where troubles or operating malfunctions are encountered, locate probable cause and remedy using [table 3-7](#).

3-45. DISASSEMBLY OF SKU-2/A SEAT SURVIVAL KIT.

Support Equipment Required		
Quantity	Description	Reference Number
1	Spanner Wrench	—
1	Arbor Press	—

3-46. Disassemble kit using index numbers assigned to [figures 3-25 through 3-33](#) as a reference. Disassembly shall be only to the extent necessary to perform maintenance task.

NOTE

Discard all O-rings, seals, cotter pins, and Teflon sealing tape removed from oxygen connections during disassembly. Discard any threaded inserts, rivets, rubber pads, seals, molding, or hook and pile fastener tape removed during disassembly of kit.

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Table 3-7. Troubleshooting

Trouble	Probable Cause	Remedy
Low or zero indication on pressure gage.	System empty.	Charge system in accordance with paragraph 3-40 .
	Defective gage.	Replace gage.
	Leaking components.	Tighten connections or replace.
Relief Valve Leakage.	Defective valve.	Replace Relief Valve, P/N P103-673.
Relief Valve does not operate within tolerance of 120 to 140 psi when simulated aircraft back pressure is applied during functional test.	Defective or out of adjustment relief valve.	Adjust to meet required specifications (paragraph 3-67). If unable to adjust, replace relief valve.
Pull force to actuate emergency oxygen system is not within tolerance of 10 to 30 pounds.	Cable broken.	Replace cable.
	Crushed cable/conduit assemblies.	Replace cable/conduit assembly.
Emergency oxygen does not actuate when manual release is pulled.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
	Reducer toggle forced beyond vertical (cocked) position, canted or turned.	Reposition toggle.
	Cable balls may be wrapped around reducer toggle and jammed against inside of kit lid.	Inspect manual cable assembly and reposition.
		Inspect and adjust the automatic emergency oxygen release in accordance with paragraph 3-66 .
Emergency oxygen does not actuate when automatic release is pulled.	Cable balls may be wrapped around reducer toggle and jammed against inside of kit lid.	Inspect and adjust the automatic emergency oxygen release in accordance with paragraph 3-66 .
	Automatic actuation cable out of adjustment.	
	Reducer toggle forced beyond vertical (cocked) position, canted, or turned.	Reposition toggle and adjust the automatic emergency oxygen release in accordance with paragraph 3-66 .
Emergency lanyard coupling assembly loose.	Broken or missing spring.	Replace spring.
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors. Open or short circuit in oxygen hose wiring.	Perform electrical check in accordance with NAVAIR 13-1-6.3-1.
Kit lid locks fail to release simultaneously.	Lid locks out of adjustment.	Adjust locks in accordance with paragraph 3-65 .

Table 3-7. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Pull force to actuate kit release mechanism is not within tolerance of 10 to 30 pounds.	Obstructions between upper and lower container mating surfaces.	Remove obstruction.
	Improper folding of liferaft assembly.	Refold liferaft assembly.
No oxygen output pressure with pressure reducer actuated.	Weak or broken spring (27, figure 3-29) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 3-47 and replace spring.
	Pressure reducer out of adjustment.	Adjust pressure reducer in accordance with paragraph 3-64 .
	Defective oxygen gage.	Bleed system; replace oxygen gage.
	Foreign matter in output flow path.	Bleed system; disassemble in accordance with paragraph 3-47 and clean.
	Poppet (17, figure 3-29) does not extend into position.	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet and seat.
Oxygen system output pressure not within 45 to 80 psig limits.	Pressure reducer out of adjustment	Adjust pressure reducer in accordance with paragraph 3-64 .
	Weak or broken poppet spring (16, figure 3-29) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet spring.
	Defective pressure reducer.	Replace reducer.
Pulsating pressure at outlet port.	Bent plunger (28, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace plunger.
Oxygen system leaking; low pressure side of reducer.	Defective O-ring (31, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace O-ring.
	Weak or broken spring (16, figure 3-29) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet spring.
Pressure reducer will not shut off.	Bent poppet (17, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet.
	Broken poppet spring (16, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet spring.
	Dirt.	Bleed system; disassemble in accordance with paragraph 3-47 and clean

Table 3-7. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Pressure reducer will not shut off. (cont)	Misaligned seat (20, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace seat.
	Defective retaining ring (13, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace retaining ring.
Pressure reducer does not meet required flows.	Pressure reducer out of adjustment.	Adjust pressure reducer in accordance with paragraph 3-64 .
	Weak or broken poppet spring (16, figure 3-29) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 3-47 and replace spring.
	Improper assembly of pressure reducer.	Bleed system; disassemble in accordance with paragraph 3-47 and clean.
	Dirty filter assembly (14, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace filter assembly.
Oxygen system leaking; high pressure side of reducer.	Misaligned seat (20, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace seat.
	Bent poppet (17, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet.
	Broken poppet spring (16, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace poppet spring.
	Inverted backup ring (19, figure 3-29).	Bleed system; disassemble in accordance with paragraph 3-47 and replace backup ring.

3-47. DISASSEMBLY OF PRESSURE REDUCER ASSEMBLY. The four major areas of disassembly in the pressure reducer assembly (figure 3-13) are (1) removal of oxygen gage, filler valve, plug, and adapter; (2) removal and disassembly of adjustment assembly; (3) disassembly of high pressure assembly; and (4) disassembly of low pressure assembly. Determine area of malfunction using table 3-7, Troubleshooting, and disassemble only to the extent necessary for corrective maintenance.

Support Equipment Required

Quantity	Description	Reference Number
1	Pressure Reducer Tool Set (figure 3-14)	T216D900-1 (CAGE 30941) NIIN 01-100-8928
1	Vise	—
1	Retaining Ring Pliers	S0100 (CAGE 79136)
1	Retaining Ring Pliers	SL0100 (CAGE 79136)
1	Toggle Reset	Fabricate IAW paragraph 3-70
1	Hex Key, 5/32-Inch	—

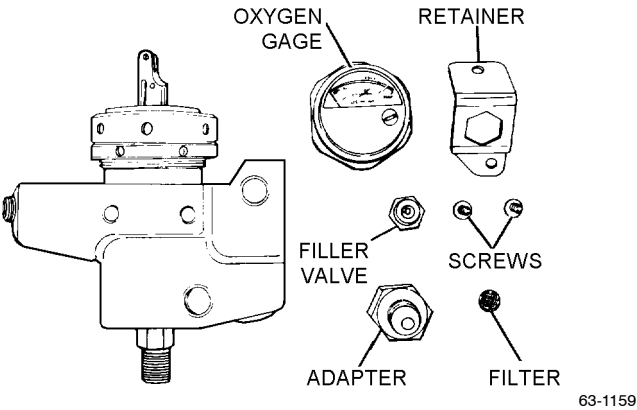
WARNING

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in a minute quantity, coming in contact with oxygen can cause explosion or fire. Dust, lint, and fine metal particles are also dangerous.

NOTE

- Maintenance personnel are advised to read and thoroughly understand the procedure in each step prior to attempting the step.
1. Remove oxygen gage, filler valve and adapter as follows:
 - a. Remove oxygen gage.
 - b. Remove adapter and discard O-ring.
 - c. Remove two attaching screws and remove filler valve retainer and anti-rotation bracket.

- d. Remove filler valve assembly.
- e. Remove filter assembly.



Step 1e - Para 3-47

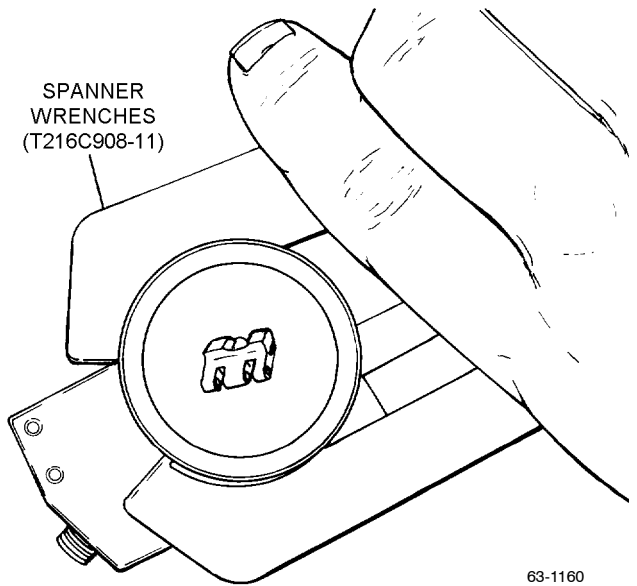
- f. Remove plug, using a 5/32-inch hex key.

CAUTION

- Filter must not be installed when using alternate Fill Valve P/N 9120097-27.
- g. Replace worn or defective parts as necessary.

2. Remove and disassemble adjustment assembly as follows:

- a. Position oxygen pressure reducer assembly with cap adjustment side up. Loosen lock ring, using spanner wrench (T216C908-11) in a clockwise rotation while holding the adjusting cap with the second spanner wrench.



Step 2a - Para 3-47

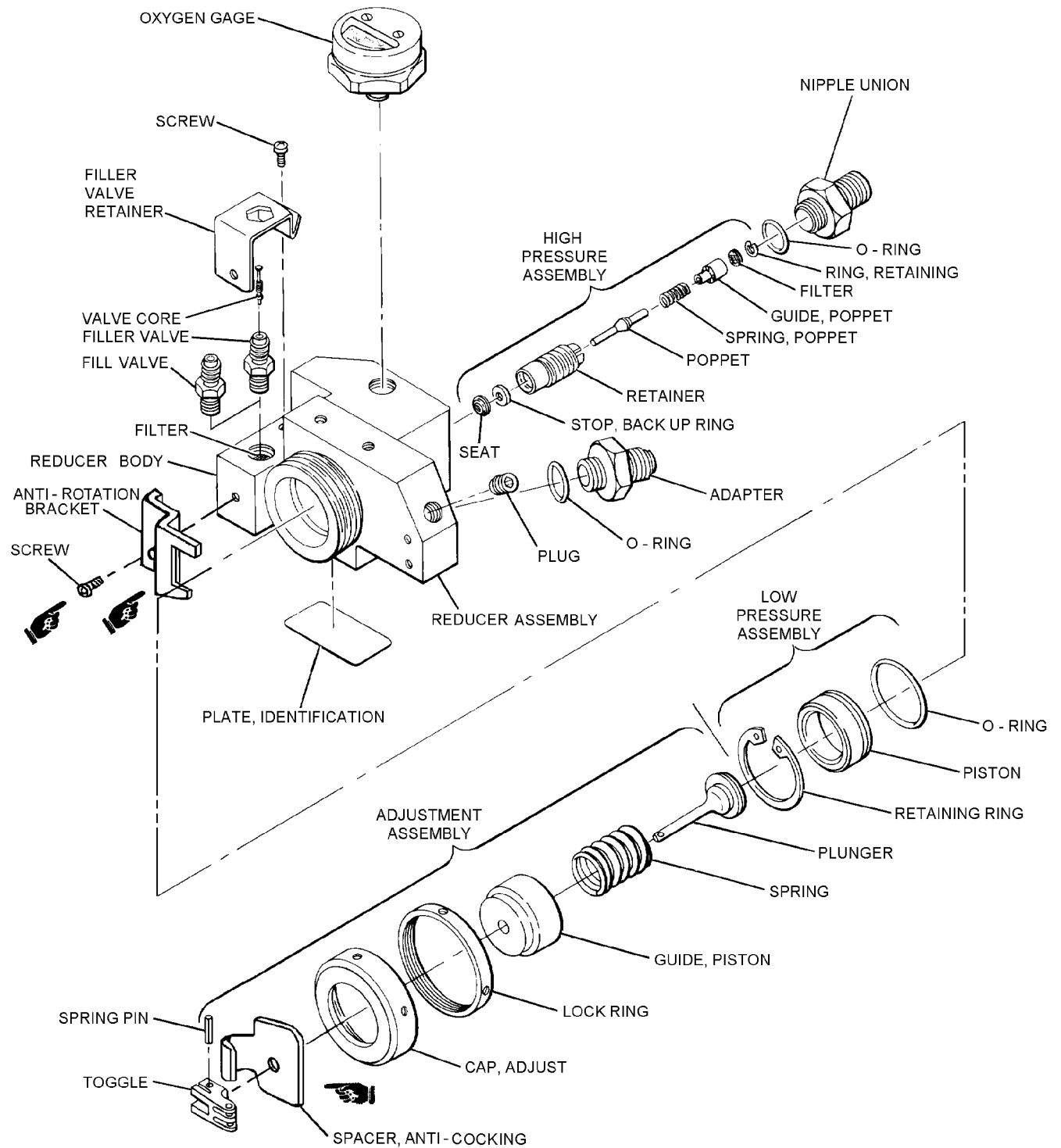
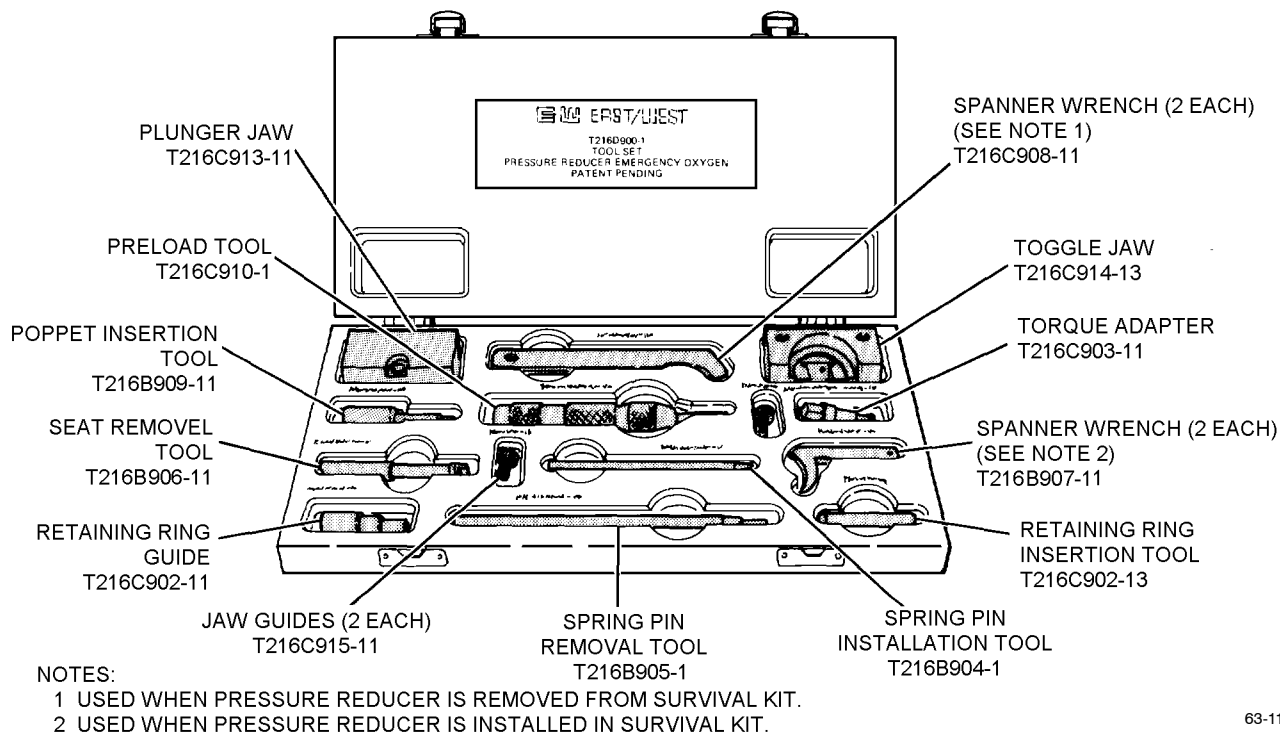


Figure 3-13. SKU-2/A Reducer Assembly

003013

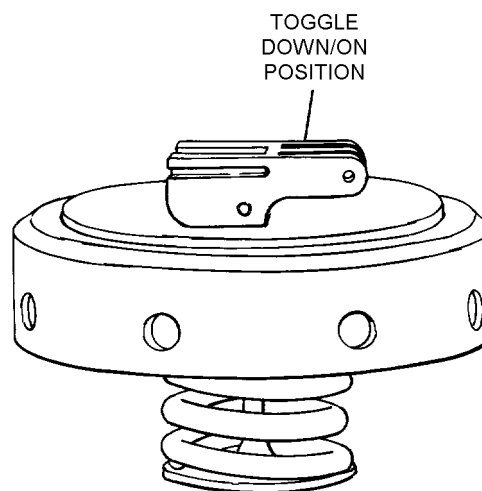


63-1157

Figure 3-14. Emergency Oxygen Pressure Reducer Tool Set

NOTE

To permit hand removal of the adjustment assembly ensure that toggle is in upright (OFF) position. To obtain desired position, insert toggle reset tool in slot on either side of toggle and twist. ACC 486 has replaced the spacer with an anti-cocking spacer.



63-1161

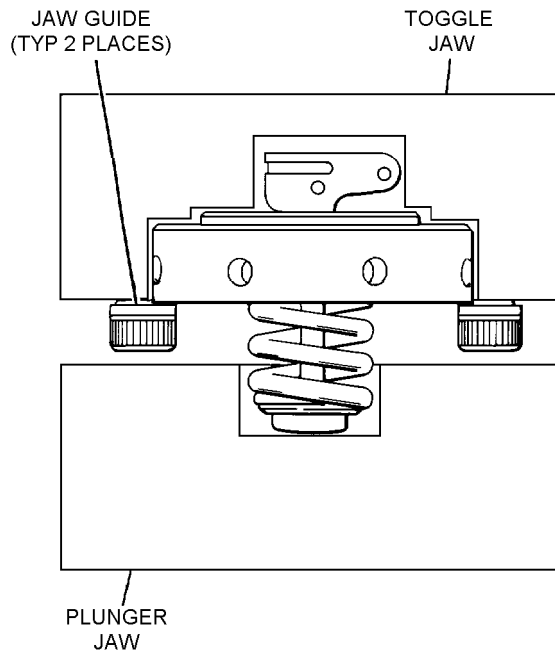
b. Remove adjustment assembly from pressure reducer by rotating in a counterclockwise direction.

c. Using toggle reset tool, trip/rotate toggle to down (ON) position to reduce tension on toggle and plunger spring assembly.

Step 2c - Para 3-47

d. Using appropriate Allen key, screw jaw guides into the two threaded holes in the toggle jaw.

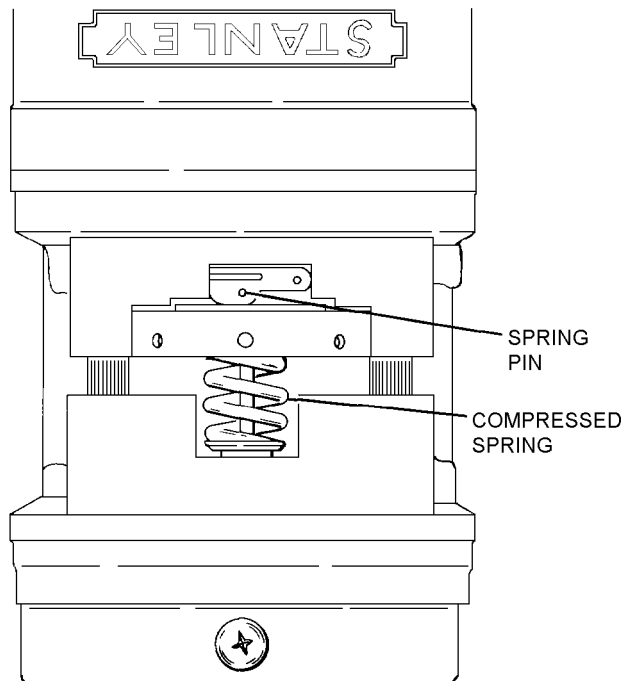
e. Position adjustment assembly in the toggle and plunger jaws.



63-1162

Step 2e - Para 3-47

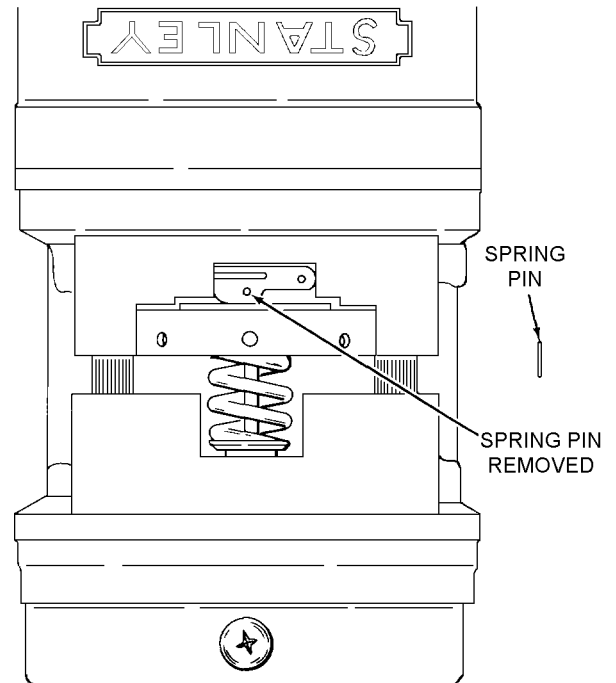
f. Place toggle and plunger jaws in a vise. Align fixture and tighten to compress spring and relieve tension on the spring pin and toggle attachment.



63-1163

Step 2f - Para 3-47

g. Using spring pin removal tool, punch out spring pin and discard.



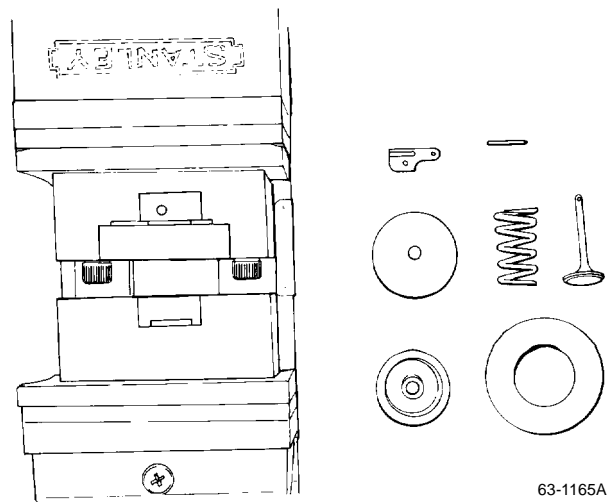
63-1164

Step 2g - Para 3-47

NOTE

Spring pin is the only attachment point of components.

h. Loosen vise jaws to relieve pressure. Remove adjustment assembly from toggle and plunger jaws and disassemble. Replace worn or defective parts as necessary.



63-1165A

Step 2h - Para 3-47

NAVAIR 13-1-6.3-2

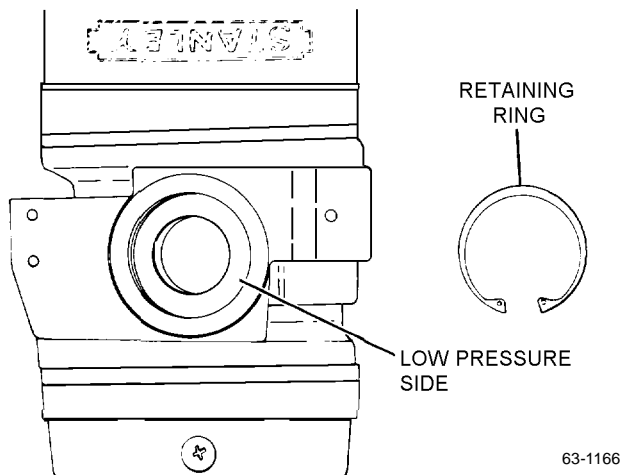
3. Disassemble low pressure assembly as follows:

a. Position oxygen pressure assembly with adjustment side or low pressure side up and secure.

NOTE

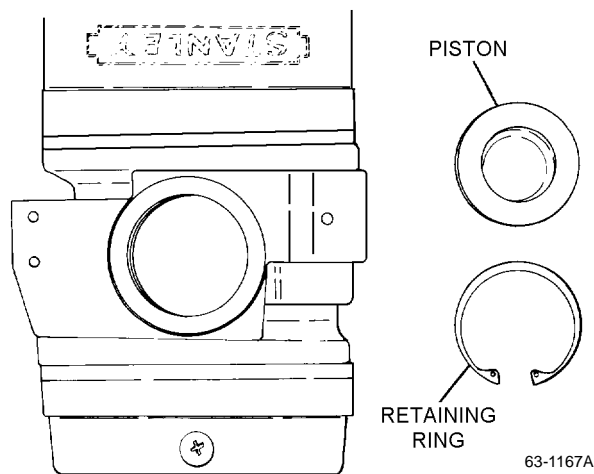
If adjustment assembly has not been removed, remove in accordance with [step 2](#).

b. Remove retaining ring, using retaining ring pliers (SL0100) or equivalent.



Step 3b - Para 3-47

c. Remove piston from reducer body bore, using retaining ring pliers with points pressed against piston skirt.



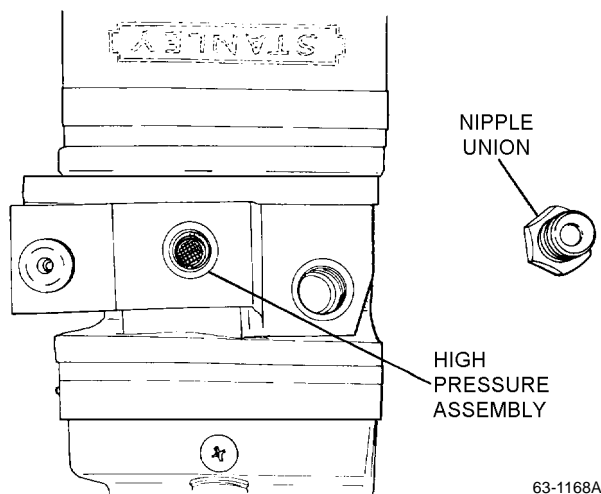
Step 3c - Para 3-47

d. Remove and discard O-ring from piston.

4. Disassemble high pressure assembly as follows:

a. Position and secure oxygen pressure reducer with high pressure assembly facing up.

b. Remove nipple union with appropriate wrench.



Step 4b - Para 3-47

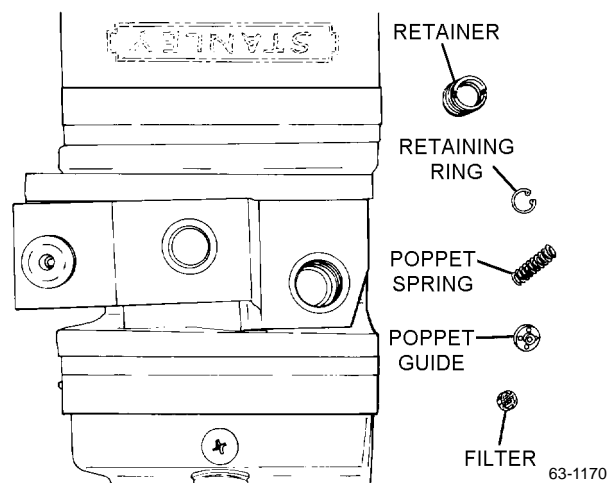
c. Remove and discard O-ring from nipple.

f. Remove filter, poppet guide, and poppet spring from retainer.

NOTE

The retaining ring, filter, poppet, guide, and spring usually withdraw from the reducer assembly housing still connected to the retainer unit.

d. Using torque adapter, remove retainer from reducer body, by rotating counterclockwise.



Step 4f - Para 3-47

NOTE

In some instances the seat will not come out with the stop; instead it will stay pressed in the reducer sealing groove. If this condition occurs, perform [steps h, i, and j](#) in order to facilitate removal without damaging the reducer body.

g. Invert pressure reducer body and remove poppet, backup stop ring, and seat.

NOTE

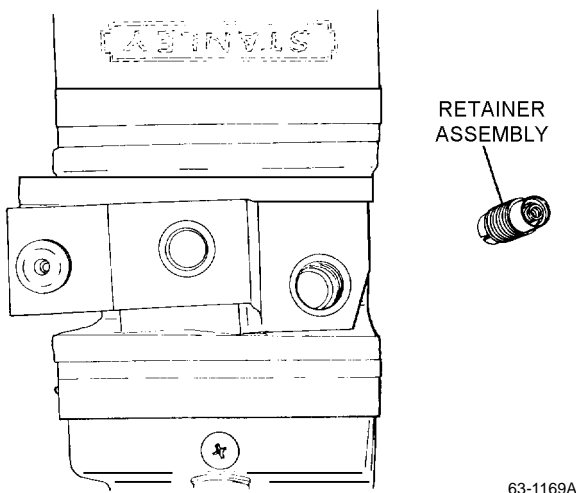
Follow procedures in [steps h, i, and j](#) only if high pressure assembly seat cannot be readily removed.

h. (Use only if seat must be dislodged) Insert seat removal tool into pressure reducer body.



Do not cut into reducer body.

i. (Use only if seat must be dislodged) Rotate seat removal tool until seat is loosened from reducer sealing groove.

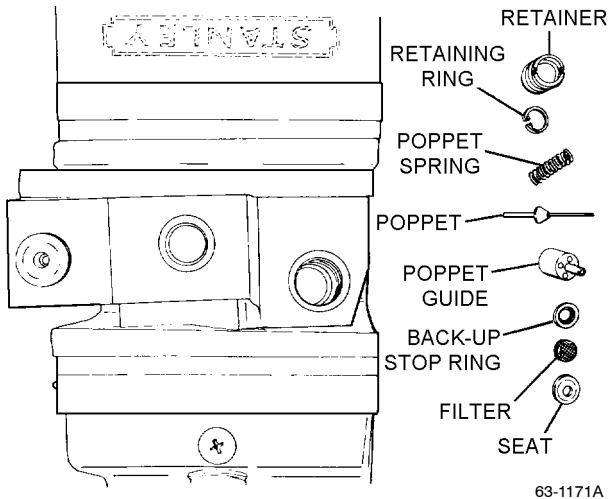


Step 4d - Para 3-47

e. Remove retaining ring, using retaining ring pliers (S0100) or equivalent.

NAVAIR 13-1-6.3-2

- j. (Use only if seat must be dislodged) Visually inspect seating area inside reducer body to ensure seat has been dislodged and removed. Remove any remaining foreign matter.
- k. Replace worn or defective parts as necessary.



Step 4k - Para 3-47

3-48. CLEANING.

3-49. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.

3-50. CLEANING CUSHIONS AND FABRIC COMPONENTS. Clean seat, thigh support cushions, and all fabric components, as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16791
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-9281

NOTE

If using cleaning compound (MIL-C-25769), combine one part compound to

three parts water. If using general purpose detergent, follow directions on container.

1. Prepare detergent or cleaning compound (MIL-C-25769) solution.
 2. Apply solution to soiled area with spray or sponge.
 3. Allow solution to remain on surface for few minutes; then scrub with soft brush or cloth.
 4. Rinse surface thoroughly with water; wipe with cloth or sponge.
- NOTE**
- Repeat steps 1 through 4 until material is clean.
5. Repeat step 4 until material is free from all solution.
 6. Allow material to dry thoroughly.

3-51. INSPECTION OF DISASSEMBLED PARTS.

3-52. Inspect disassembled seat survival kit parts for distortion, corrosion, or other damage in accordance with table 3-8. Inspect survival items in accordance with NAVAIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

3-53. REPAIR AND REPLACEMENT.

3-54. REPAIR. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs performed shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

3-55. Repair of Cushion Assemblies. Repair of the cushion assemblies is limited to sewing of loose or open seams, broken stitches, and small rips and tears.

Table 3-8. Inspection

Component	Task
Survival Kit (Figures 3-25 and 3-26)	
Cushion Assembly and Thigh Support Cushions	Inspect for fabric damage and loose or broken stitching.
	Ensure that hook tape is firmly attached to cushion assemblies.
	Inspect ventilated cushion coupling for weak spring clip.
Dropline Assembly	Inspect boot for fabric damage and loose, broken or frayed stitching.
	Check dropline for material damage, loose, frayed or broken stitching.
Harness Assembly	Check harness assembly for retention pin damage and presence of locknut.
	Inspect aft-most hole serving as attachment for lug pin for elongation.
	Check webbing for wear, damage and for frayed, broken or loose stitching.
	Inspect adapter for obvious damage, corrosion, and wear.
	<u>Check force required for adjuster to release webbing. Maximum pull force shall not exceed 8 lbs. on yellow webbing tab.</u>
Release Handle Assembly	Check molded grip for cuts and breaks.
Raft Cover	Examine for damaged fabric and loose, broken or frayed stitching.
Equipment Container Assembly	Check slide fastener for security of attachment and trouble-free operation.
	Inspect container material for damage and for loose, broken or frayed stitching.
Survival Items	Inspect in accordance with NAVAIR 13-1-6.5.
Lid Assembly (Figure 3-27)	
Lid Assembly	Inspect for cracks, damage to fiberglass and attached extruded metal lip.
Pile Tape Fasteners	Check all tape fasteners for secure attachment to fiberglass lid.
Plug and Cap Assembly	Inspect chain, plug and cap for damage.
	Ensure that chain is securely riveted to plug and cap.
Carrying Handle	Check webbing for wear damage, and for frayed, broken or loose stitching.

Table 3-8. Inspection (Cont)

Component	Task
Lid Assembly (Figure 3-27) (Cont)	
Oxygen Cylinders	Inspect end fittings for damage.
	Check cylinders for bulges, cracks, nicks, gouges or scratches which penetrate metal.
Manual Oxygen Release	Inspect handle and cable for obvious defects.
Automatic Oxygen Release	Check cable housing for obvious damage and secure attachment to conduit.
	Inspect knurled end fitting.
	Inspect coupling assembly for spring security.
	Inspect that the coupling assembly has not separated from the rest of the cable.
Cable Assemblies	Check balls for secure attachment on respective cables.
	Examine cables for deformation, broken strands or other obvious defects.
	Check conduits for loose or cracked joints, cracked tubing, flattened, dented or out of round tubing diameters.
Check Valve	Inspect for damaged threads and rounded hexagon flats.
Lid Latches	Check for damage and misalignment.
Manifold Assembly (Figure 3-28)	
Check Valve	Inspect for damaged threads and rounded hexagon flats.
Relief Valve	Inspect for damaged threads and rounded hexagon flats.
Manifold Body	Inspect manifold for thread damage.
Reducer Assembly (Figure 3-29)	
Oxygen Gage	Check gage for broken or missing glass and broken or jammed needle.
Filler Valve Assembly	Inspect for damaged threads, rounded hexagon flats and condition of valve core (as applicable).
Toggle	Visually inspect toggle resetting slot for galling. Examine pinholes for wear and damage.
Body	Check for gouges and other obvious damage. Inspect threads for damage.

Table 3-8. Inspection (Cont)

Component	Task
Container Assembly (Lower) (Figure 3-30)	
Lower Container Assembly	Check for cracks and damage to fiberglass and attached extruded metal lip. Ensure that extruded metal lip is secured to fiberglass and there is no separation between parts. If fiberglass is cracked, refer to NAVAIR 01-1A-21 for repair procedures.
Handle Protector	Examine protector for obvious defects and security of attachment.
Radio Bracket Assembly	Check bracket for secure attachment to container. Examine hook and pile tapes for security of attachment.
Pile Tape	Check all tape fasteners for secure attachment to fiberglass container.
Pad	Examine pad for general condition and security of attachment.
Lock Assemblies (Figures 3-31 and 3-32)	
Cover	Check for distortion and cracks in area of holes.
All Locknuts and Nipples	Inspect for cracks and thread damage.
	Check for rounded corners of hexagon flats.
Housing	Inspect holes and threads for damage.
Slide	Check slides for distortion and for damage to ends which engage lid latches.
Conduits and Cables	Check for broken, bent or crushed conduits.
	Inspect cables for damaged or broken strands; check security of terminal balls on cables.
Lid Lock Release Assembly (Figure 3-33)	
Cover	Check for distortion and cracks in area of holes.
Housing	Inspect holes and threads for damage.
Lid Lock Release	Check for damage, corrosion or any other defects.

3-56. Repair/Replacement of Oxygen Gage Window.

Materials Required		
Quantity	Description	Reference Number
1	Window, Observation	308411 NIIN 00-059-6401
As Required	Adhesive, Cyanoacrylate or	MIL-A-46050 NIIN 00-142-9193
	Adhesive, Cellulose Nitrate	MIL-A-388A P/N A-A-529 NIIN 00-270-8150

1. Ensure both surfaces to be bonded are clean and dry.



Avoid adhesive contact with skin and eyes.

NOTE

Cure time for adhesive MIL-A-46050 is one hour after parts are mated together.

Cure time for adhesive A-A-529 is 24 hours after parts are mated.

2. Apply small amount of adhesive around edge of window opening in lid assembly and on rim of window.

3. Bond both surfaces together and hold until adhesive is set.

3-57. REPLACEMENT. All individual components that fail to pass inspection shall be replaced except where repair procedure is indicated. Refer to source code listing (SM&R CODE) in the Numerical Index of the Illustrated Parts Breakdown to aid in determining replaceable components. All adjustable compo-

nents or assemblies that fail to pass respective tests shall be adjusted to meet required specifications.

3-58. (East/West) Replacement of Lapbelt Adjuster. To replace missing or damaged lapbelt adjuster on the restraint harness, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Adjuster, Lapbelt	P/N 184C100-1 (CAGE 30941)
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-953-2205 (Note 1)

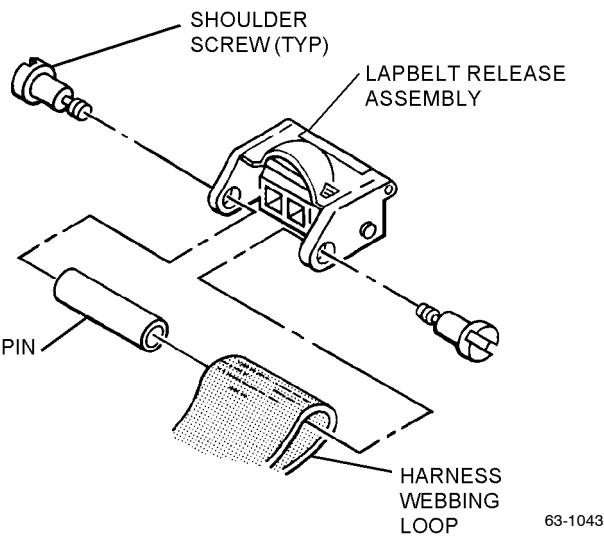
- Notes: 1. Use any contrasting color.

NOTE

Replacement procedures can be used on both right and left side restraint harness assemblies.

1. Remove existing lapbelt adjuster from restraint harness as follows:

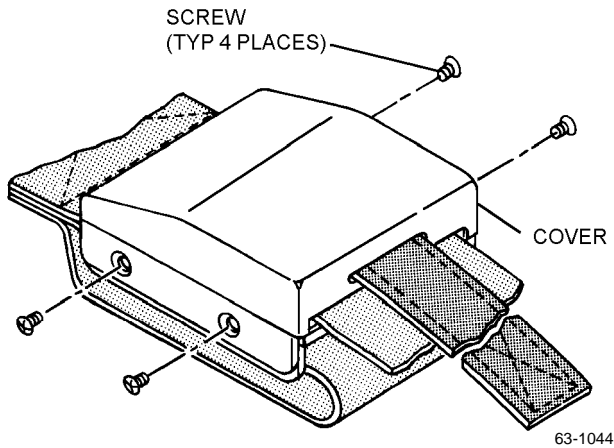
- a. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing, and slide pin out of harness webbing loop. Retain all parts.



63-1043

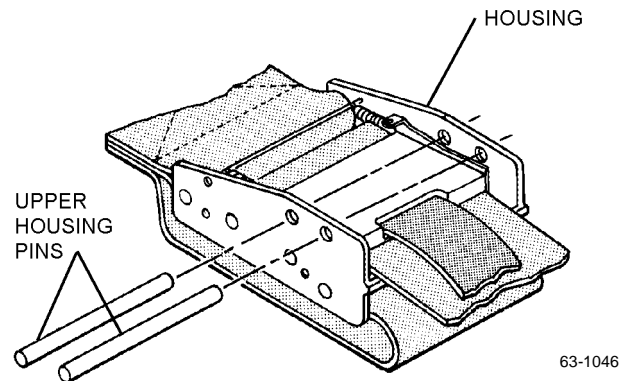
Step 1a - Para 3-58

b. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



Step 1b - Para 3-58

d. Slide upper housing pins out of housing.

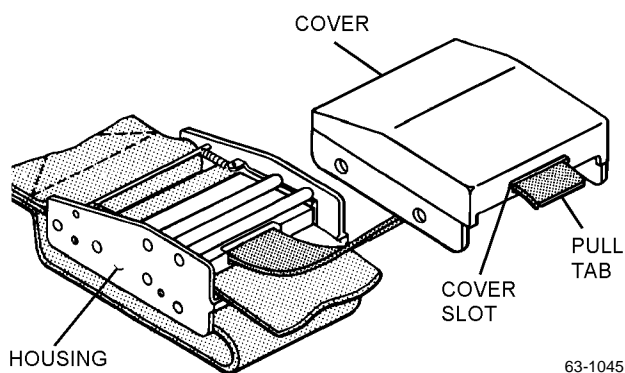


Step 1d - Para 3-58

NOTE

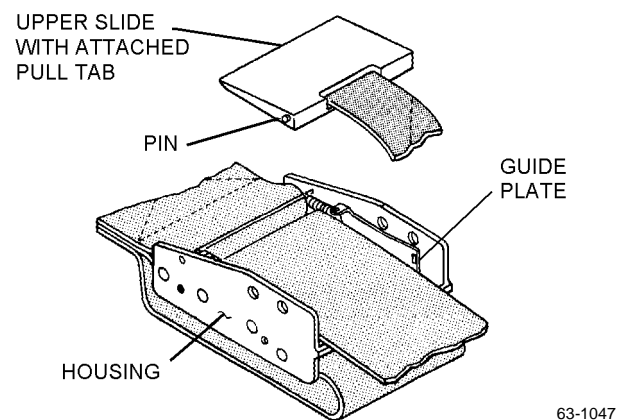
Slides are held to guide plates by pins. Pull slide up so guide plates are above edge of housing, and rotate slide out of guide plates.

c. Remove cover from lapbelt adjuster housing, and slide pull tab through cover slot.



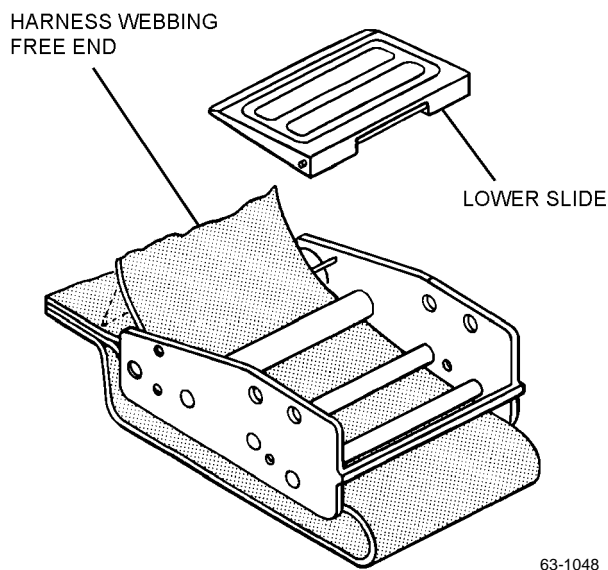
Step 1c - Para 3-58

e. Remove upper slide with attached pull tab.



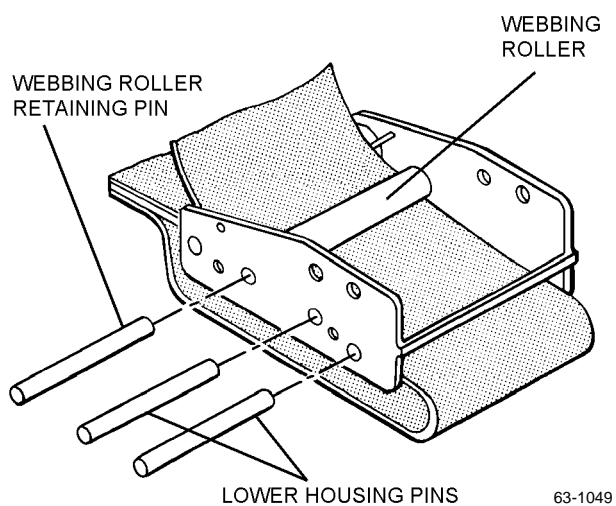
Step 1e - Para 3-58

f. Lift free end of harness webbing, and remove lower slide.



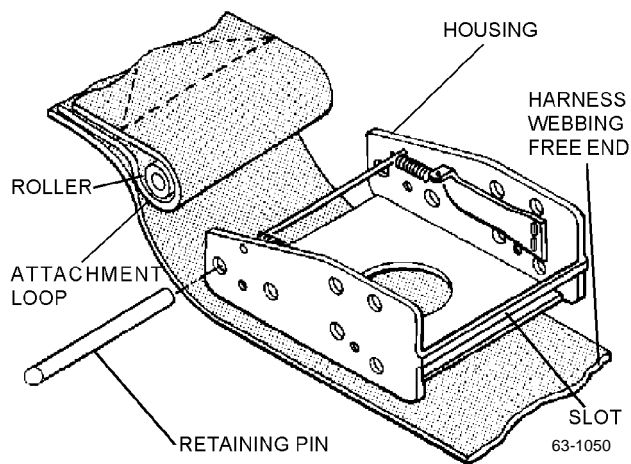
Step 1f - Para 3-58

g. Position guide plates up and out of way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



Step 1g - Para 3-58

h. Pull free end of harness webbing through slot in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



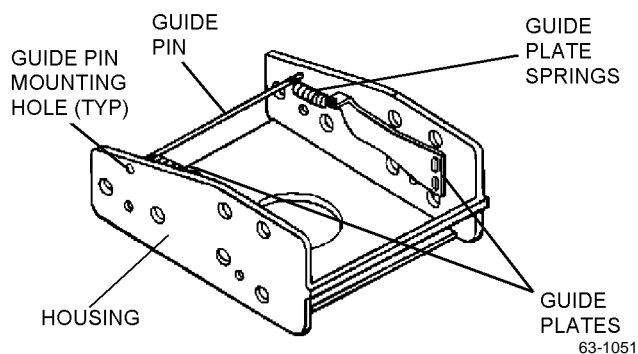
Step 1h - Para 3-58

2. Install new lapbelt adjuster as follows:

NOTE

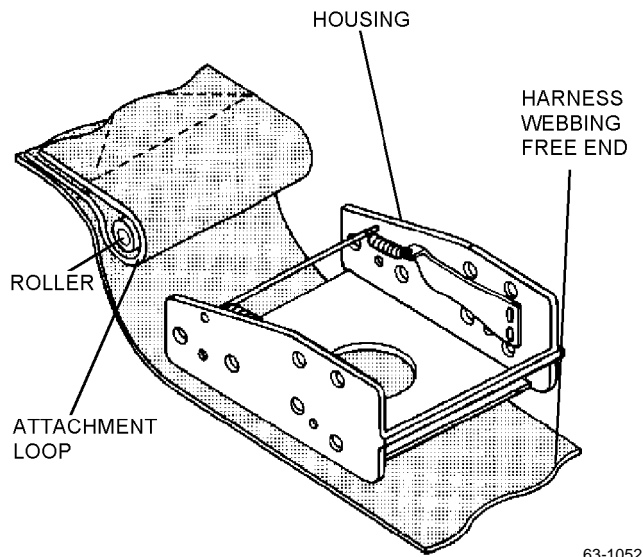
The six pins (two retaining and four housing) are interchangeable. The two rollers are interchangeable.

a. If required, slide guide plate springs onto guide pin; ensure guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



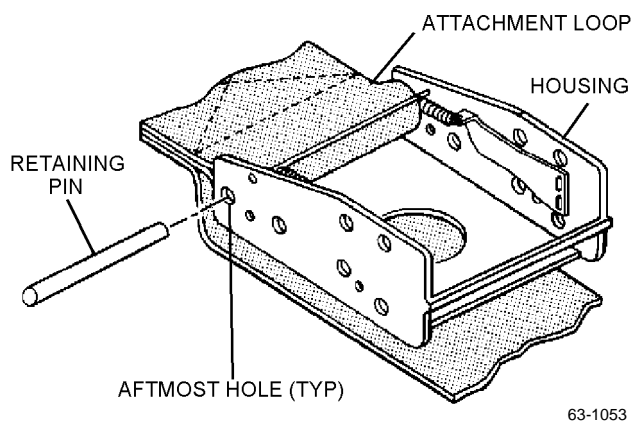
Step 2a - Para 3-58

b. Insert roller into attachment loop of harness webbing. Place adjuster housing on top of free end of harness webbing so that aft end of housing faces attachment loop.



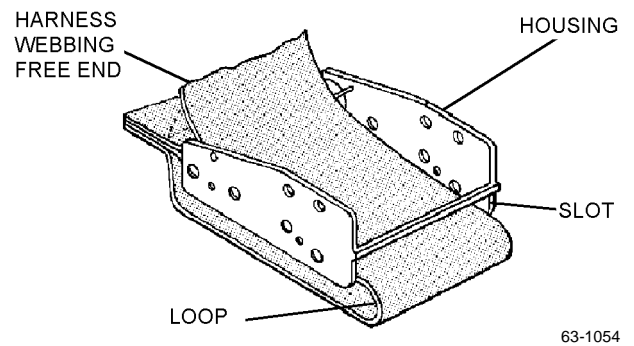
Step 2b - Para 3-58

c. Position housing onto attachment loop and roller. Align hole through roller with proper holes in housing, and install retaining pin.



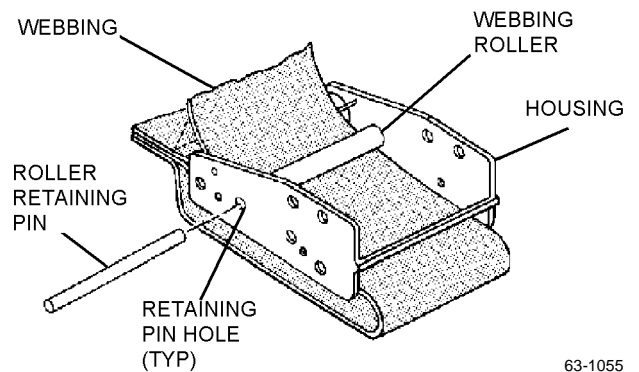
Step 2c - Para 3-58

d. Fold free end of webbing back towards housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.



Step 2d - Para 3-58

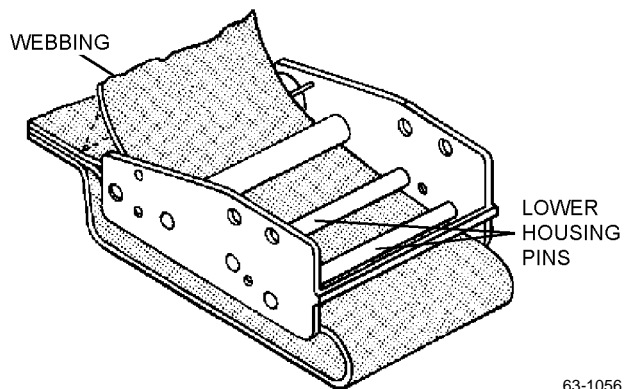
e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing, and insert roller retaining pin.



Step 2e - Para 3-58

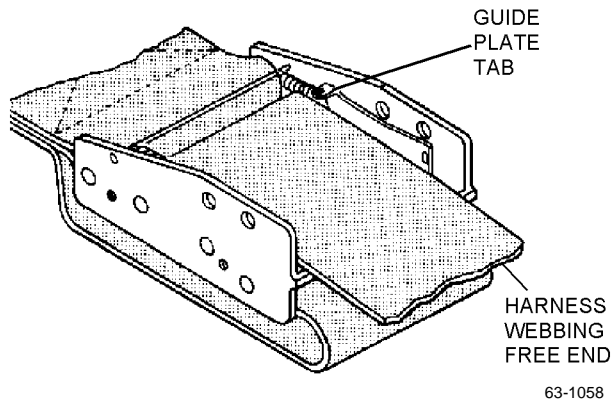
NAVAIR 13-1-6.3-2

f. Insert lower housing pins; ensure pins are resting on top of webbing.



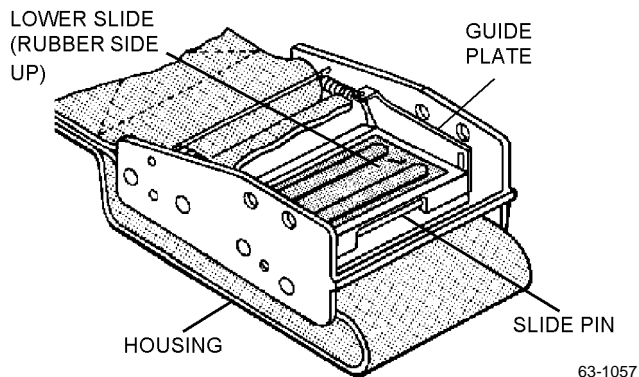
Step 2f - Para 3-58

h. Position harness webbing free end under tabs of guide plates, and lay webbing down over lower slide.



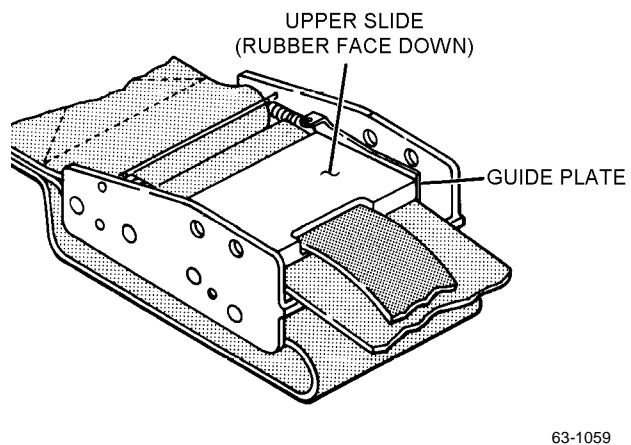
Step 2h - Para 3-58

g. Position guide plates into housing on top of lower housing pins; install lower slide rubber side up. Ensure slide pin is correctly positioned into lower slots of guide plates.



Step 2g - Para 3-58

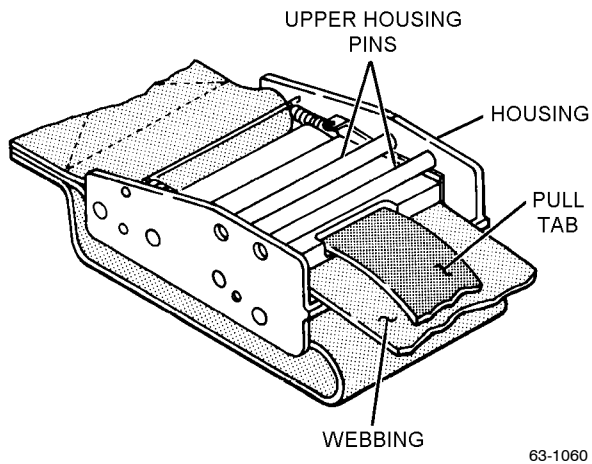
i. Install upper slide, rubber face down. Ensure lower slide does not come out of place. Ensure slide pins sit securely in slots of guide plates.



Step 2i - Para 3-58

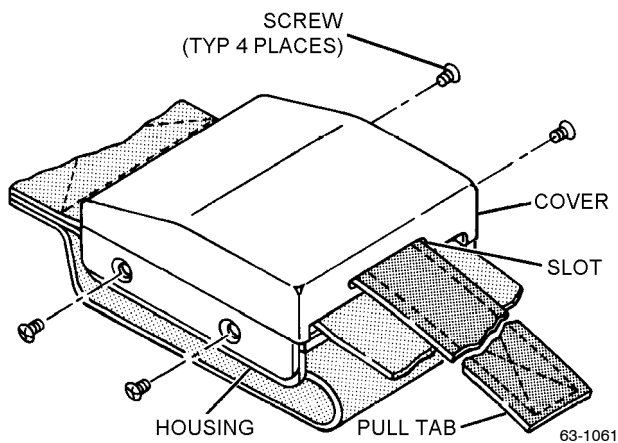
j. Install upper housing pins. Ensure slides operate correctly; pull on pull tab to check simultaneous movement of slides. Webbing shall slide with ease through adjuster in either direction.

3-59. Deleted.



Step 2j - Para 3-58

k. Insert pull tab from inside out, through slot in cover. Place cover on housing and align four screw holes. Apply sealing compound to threads of four screws, and secure cover to housing.



Step 2k - Para 3-58

3. Apply sealing compound to threads of two shoulder screws, and install lapbelt release assembly removed in [step 1a](#).

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

Pages 3-57 thru 3-60 - Deleted.

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3-60. ASSEMBLY.**NOTE**

The tamper dot on the Oxygen Hose Assembly shall be applied to the fitting in a manner which provides easy identification for inspection purposes when the seat kit is installed in the seat.

3-61. ASSEMBLY OF SKU-2/A SEAT SURVIVAL KIT. Assemble using the index numbers of [figures 3-25 through 3-33](#) as a reference. Assemble in reverse order of disassembly ([paragraph 3-45](#)), and as per the following steps:

1. Refer to [Appendix B](#) for the proper torque of nuts and fittings.

NOTE

Use any contrasting color when applying tamper dots to oxygen fittings.

2. Apply tamper dots to all oxygen fittings shown on [figures 3-25 through 3-33](#). Use lacquer specification MIL-L-7178, Fed. Std. 595.

3. Torque value for inlet tubing connector on oxygen hose assembly shall be 80 to 100 in-lb and torque for the outlet tubing connector on oxygen hose assembly shall be 100 to 125 in-lb.

4. Prior to applying sealing compound, wipe off any contaminants with cloth moistened with water.

5. Apply sealing compound to 50% of threads on parts indicated in Illustrated Parts Breakdown.

Materials Required		
Quantity	Description	Reference Number
As Required	Nitrogen, Type I, Class I, Grade A	B-N-411
As Required	Krytox 240AC, Type II	MIL-G-27617 NIIN 00-961-8995
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Neoprene Adhesive	MMM-A-121
As Required	Structural Adhesive	EC1648AB (CAGE 04963)
As Required	Tees, Tubing, Fittings	—
2	Cap Screws, 10 x 32	—
As Required	Sealing Compound, Grade E/EV	MIL-S-22473 (Note 1)
As Required	Sealing Compound, Grade C/CV	MIL-S-22473 (Note 1)
As Required	Lacquer	MIL-L-7178
As Required	Dry Film Lubricant	MIL-L-60326

Notes: 1. Use any contrasting color.

Support Equipment Required

Quantity	Description	Reference Number
1	Arbor Press	—
1	Spanner Wrench	—
1	Flow Rater, 0-150 LPM Range	—
1	Test Gage, 0-160 PSI Range	—
1	Dial Indicator Depth Gage	D412.5
3	On-Off Valves	—
1	Water Beaker	—

WARNING

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

3-62. ASSEMBLY OF PRESSURE REDUCER

ASSEMBLY. The following procedures assemble the reducer assembly into four major operations: assembly of the high pressure assembly; assembly of low pressure assembly; assembly and preadjustment of the adjustment assembly; and assembly of oxygen gage, filler valve, adapter, and plug. It is imperative that the following assembly sequence be followed if the entire reducer assembly has been disassembled. See [figure 3-15](#), and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Krytox 240 AZ, Type I	MIL-G-27617 NIIN 01-007-4384
As Required	Tape, Antiseize	MIL-T-27730
As Required	Thread Locking Compound	VC-3 (CAGE 04866)
As Required	Plastic Bag	MIL-B-117
1	Spring Pin	MS171435
2	O-ring	MS9068-012
1	O-ring	MS28775-117
1	Filter	204B419-11

Support Equipment Required

Quantity	Description	Reference Number
1	Vise	—
1	Pressure Reducer Tool Set (figure 3-16)	T216D900-1 (CAGE 30941) NIIN 01-100-8928
1	Retaining Ring Pliers	S0100 (CAGE 79136)
1	Retaining Ring Pliers	SL0100 (CAGE 79136)
1	Torque Wrench 0-150 lb-in	TE-6FUA (CAGE 55729) or Equivalent
1	Toggle Reset Tool	Fabricate IAW paragraph 3-70

WARNING

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in a minute quantity, coming in contact with oxygen can cause explosion or fire. Dust, lint, and fine metal particles are also dangerous.

NOTE

Maintenance personnel are advised to read and thoroughly familiarize themselves with each step prior to the accomplishment of the operations set forth in this procedure.

Discard and replace all packings, seals, cotter pins, and Teflon sealing tape removed during disassembly of emergency oxygen system.

All complete assemblies not immediately being returned to service shall be sealed in plastic bags with all external fittings properly capped.

1. Assemble high pressure assembly as follows:

NOTE

If the entire reducer assembly has not been disassembled it is necessary to remove the adjustment assembly and low pressure assembly to correctly perform the following assembly procedures.

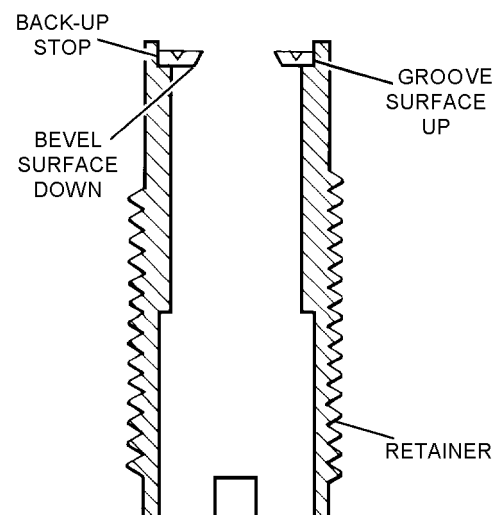
a. Ensure that the adjustment assembly has been removed in accordance with paragraph 3-47.

b. Ensure that the low pressure assembly has been removed in accordance with paragraph 3-47.

c. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

d. Position retainer with threaded side down.

e. Install backup stop in upper groove of retainer, positioning bevel surface down and groove surface up.



63-1172

Step 1e - Para 3-62

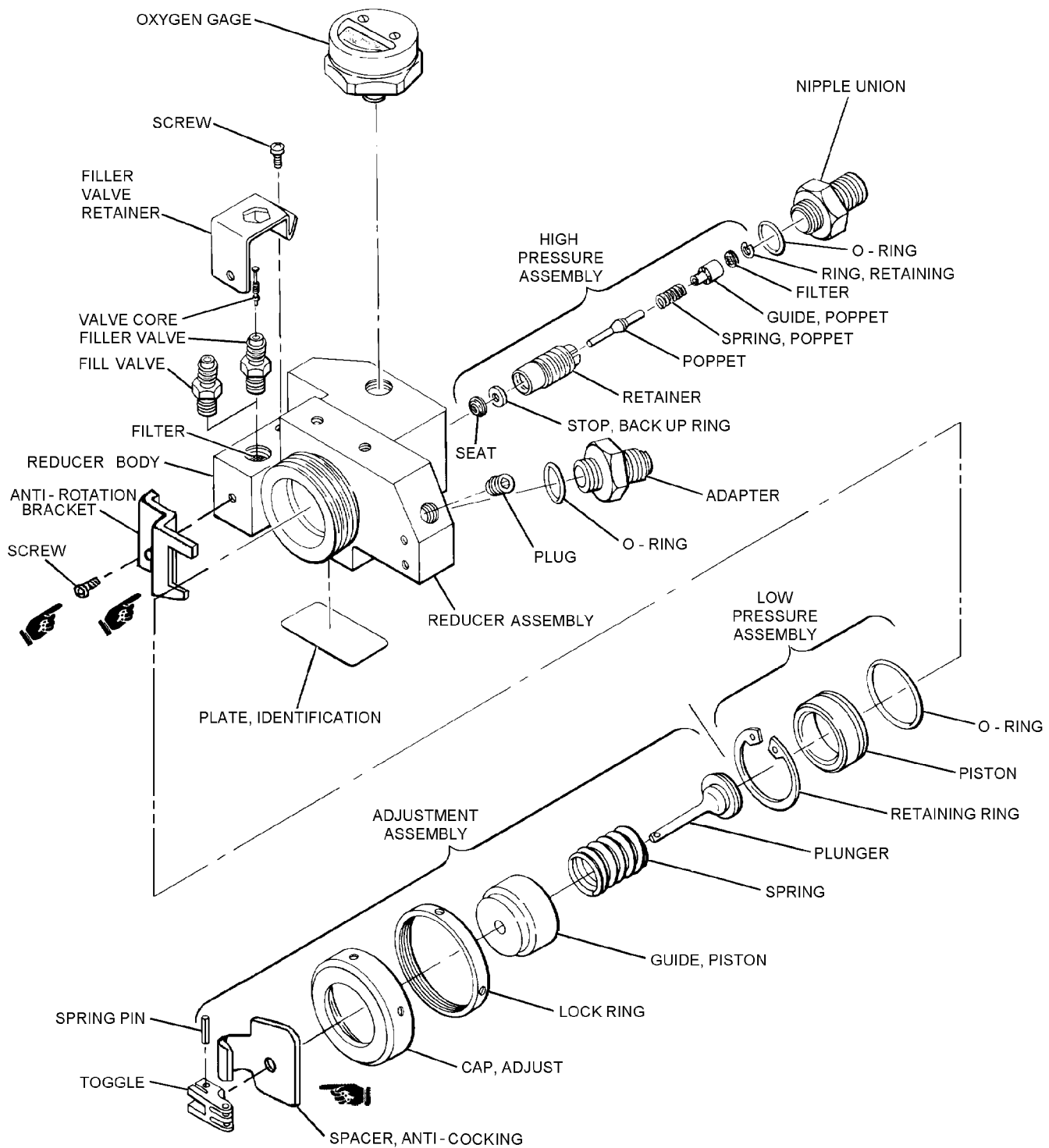
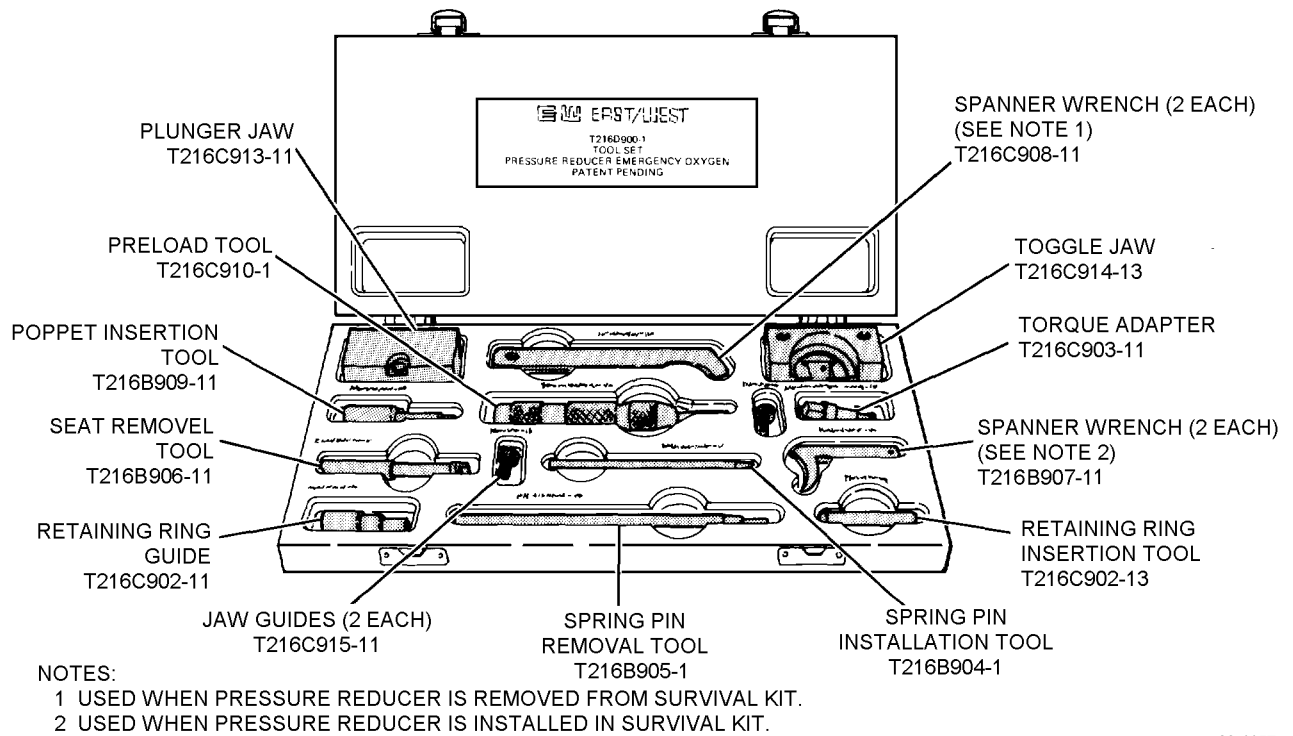


Figure 3-15. SKU-2/A Reducer Assembly

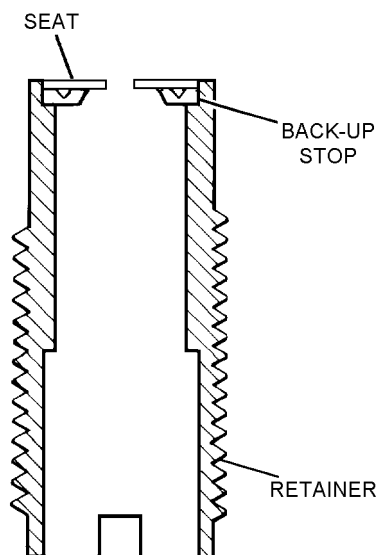
003015



63-1157

Figure 3-16. Emergency Oxygen Pressure Reducer Tool Set

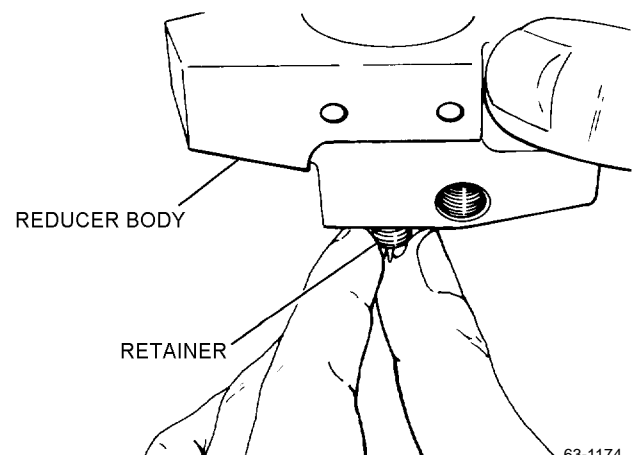
f. Place seat on top of backup stop ensuring proper alignment within retainer groove. Push firmly on seat with finger so that seat is retained in place.



63-1173

Step 1f - Para 3-62

g. While holding retainer in an upright position with backup stop and seat positioned on top, lower reducer body onto retainer and slowly screw retainer into high pressure inlet port of reducer body.



63-1174

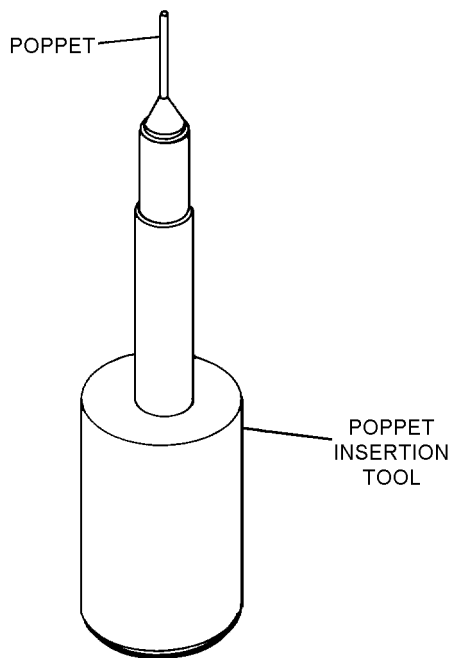
Step 1g - Para 3-62

NAVAIR 13-1-6.3-2

h. Using torque adapter mounted on a 3/8-inch nut driver, continue screwing retainer into high pressure port until snug. Visually inspect for proper alignment of backup stop and seat into reducer body.

i. Torque retainer into reducer body to 32 to 35 lb-in, using retainer torque adapter and torque wrench.

j. Using poppet insertion tool, place poppet into tool so that cone-shaped part of poppet faces away from heavy end of tool.



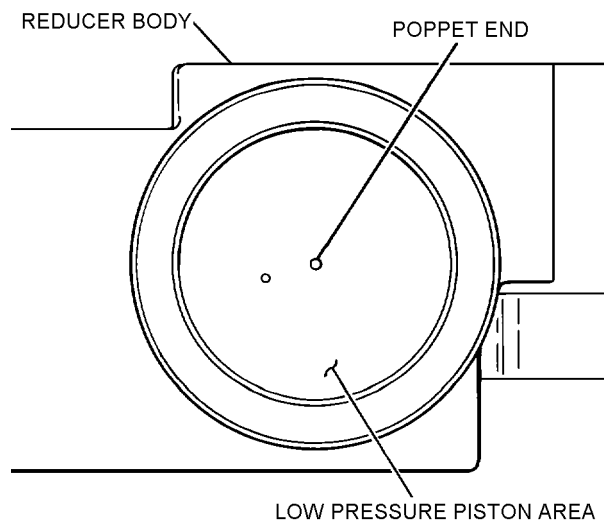
63-1175

Step 1j - Para 3-62



Be careful when inserting poppet that no pressure is applied which could bend poppet shaft. Be certain end of poppet extends into low pressure piston area.

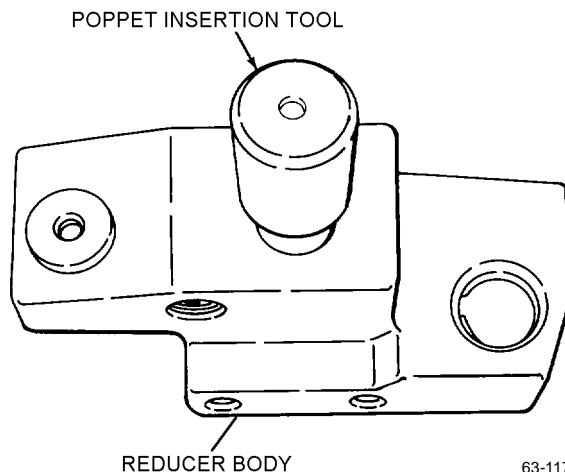
k. Hold reducer body/housing with high pressure retainer side down. Slowly lower reducer housing onto poppet. Carefully rock and turn poppet insert tool until poppet end is seen to extend into low pressure piston area.



63-1176

Step 1k - Para 3-62

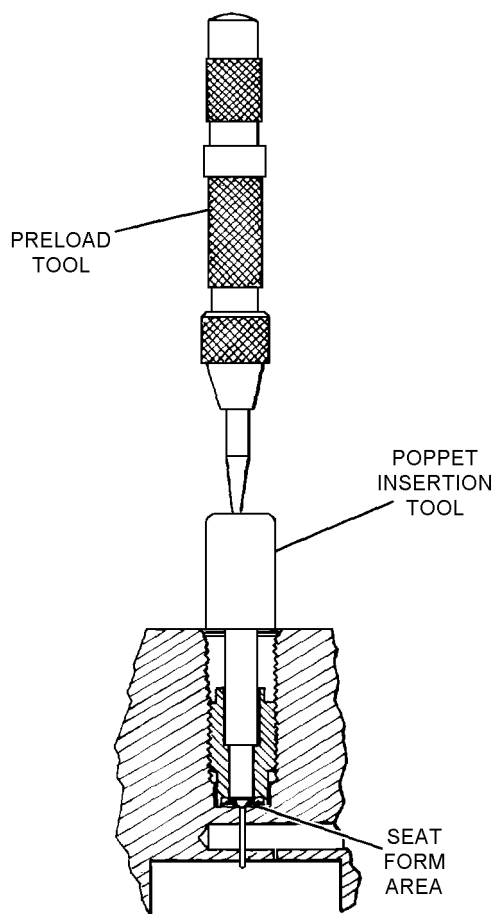
l. Leaving poppet insertion tool inserted, turn entire assembly over so that high pressure or retainer assembly and poppet insertion tool are now facing up.



63-1177

Step 1l - Para 3-62

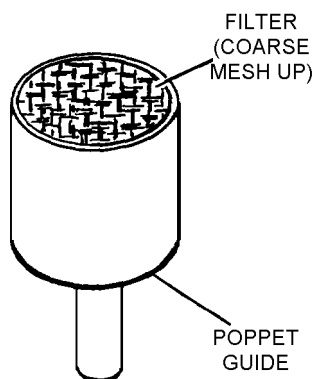
m. Place preload tool into dimple on top of poppet insertion tool. Press down once on preload tool until it unloads with a snap. This forms seat into its correct angle.



Step 1m - Para 3-62

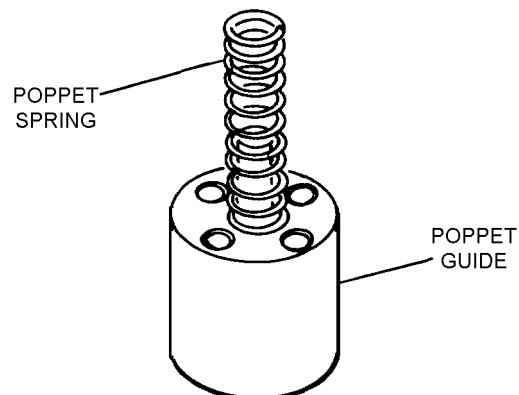
n. Remove poppet insertion tool so that poppet remains positioned inside reducer body against seat.

o. Press filter, with coarse mesh up, into wide end of poppet guide.



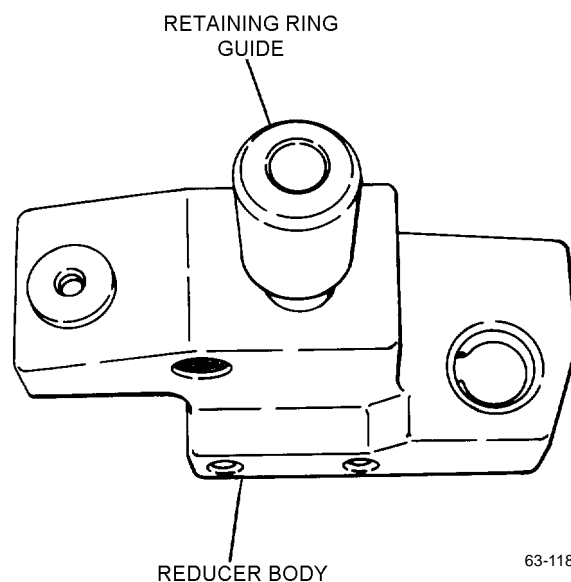
Step 1o - Para 3-62

p. Secure poppet spring to poppet guide by pressing spring onto shaft end of guide.



Step 1p - Para 3-62

q. Position retaining ring guide into retainer so that the tool engages tangs of retainer.

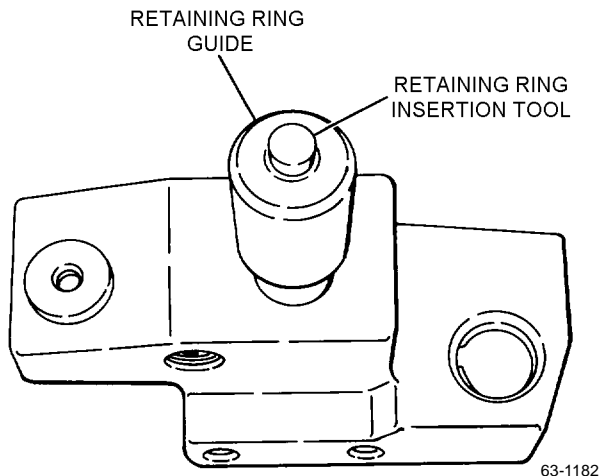


Step 1q - Para 3-62

NAVAIR 13-1-6.3-2

r. Insert poppet guide and spring with spring end down into opening in retaining ring guide.

s. Using retaining ring insertion tool, ensure that poppet guide and spring are properly positioned inside retainer.

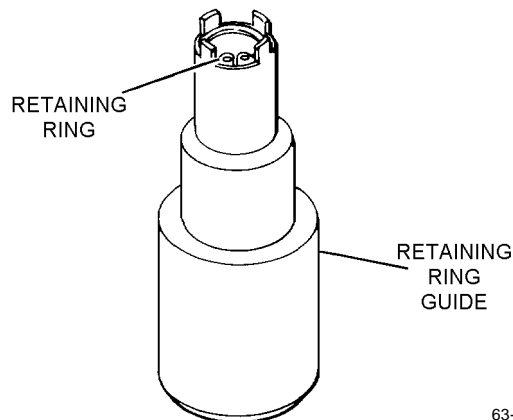


Step 1s - Para 3-62

t. Remove retaining ring insertion tool and retaining ring guide from reducer housing.

u. Visually check that filter end of poppet guide is slightly higher than ends of retainer.

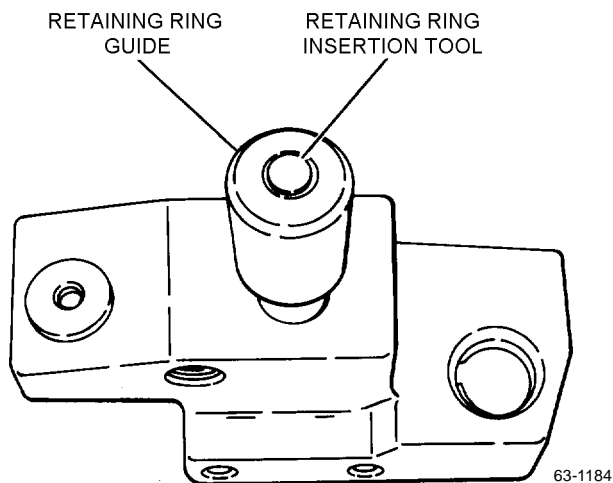
v. Using retaining ring pliers, install retaining ring inside tangs of retaining ring guide.



Step 1v - Para 3-62

w. Insert retaining ring guide into tangs of retainer. Insert retaining ring insertion tool into retaining ring guide.

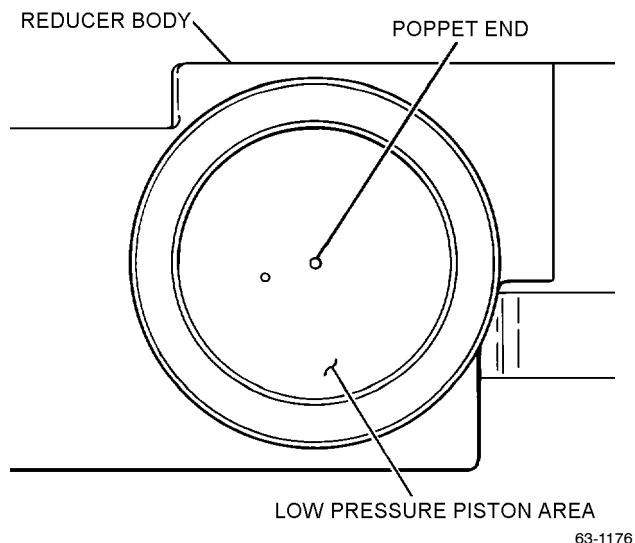
x. Compress poppet spring and seal retaining ring by pressing down on retaining ring insertion tool until flush with tip of retaining ring guide.



Step 1x - Para 3-62

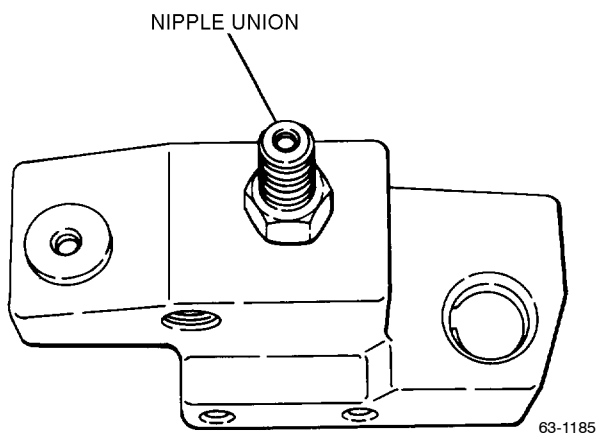
y. Remove retaining ring guide and insertion tool. Ensure retaining ring is properly seated in groove.

z. Verify that tip of poppet extends into lower pressure piston area.



Step 1z - Para 3-62

aa. Lubricate new O-ring and mating surfaces with Krytox 240AZ. Install O-ring on nipple union and install nipple union into reducer housing.



Step 1aa - Para 3-62

2. Assemble low pressure assembly as follows:

a. Ensure that high pressure assembly is properly assembled in accordance with [step 1](#).

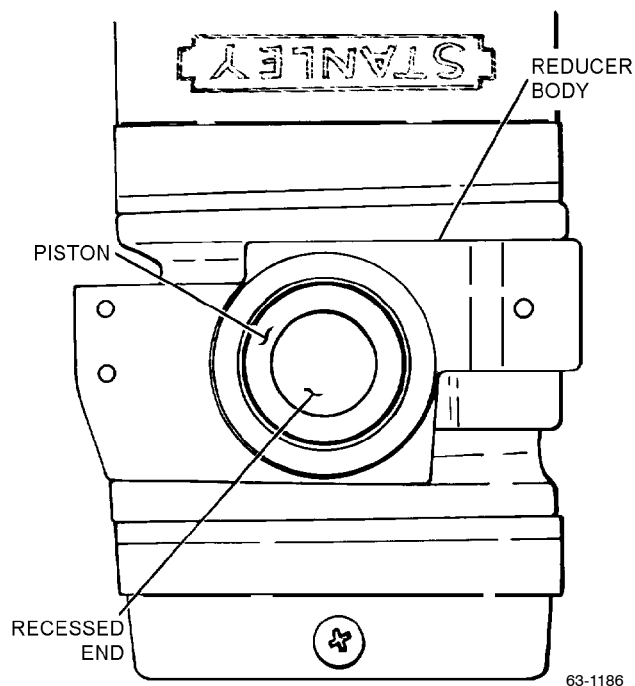
b. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

c. Position oxygen pressure reducer assembly with adjustment side or low pressure side up and secure.

d. Lubricate new O-ring and mating surfaces with Krytox 240AZ. Install O-ring on piston.

e. Lubricate bore of reducer body with Krytox 240AZ.

f. Install piston, recessed end out, in bore of reducer body.



Step 2f - Para 3-62

g. Install retaining ring, using retaining ring pliers.

3. Assemble and preadjust adjustment assembly as follows:

NAVAIR 13-1-6.3-2

a. Ensure that high pressure and low pressure assemblies have been properly assembled in accordance with [steps 1](#) and [2](#).

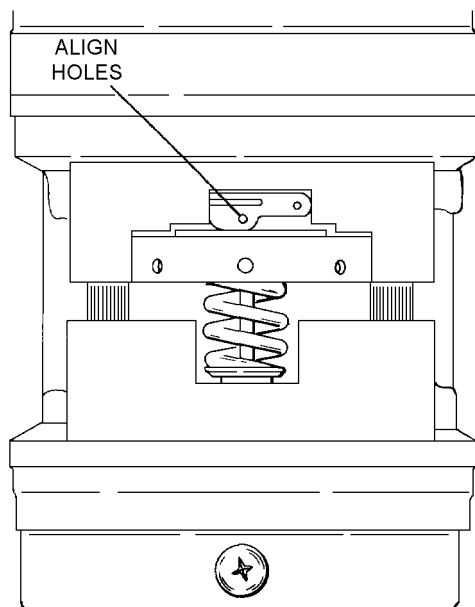
b. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

c. Using appropriate Allen key, screw jaw guides into two threaded holes in toggle jaw.

d. Place toggle and plunger jaws in vise.

e. Assemble adjustment assembly components in proper sequence ([figure 3-15](#)). Position components in toggle and plunger jaws.

f. Apply vise pressure to compress spring. Align hole in toggle with hole in plunger end.



63-1187

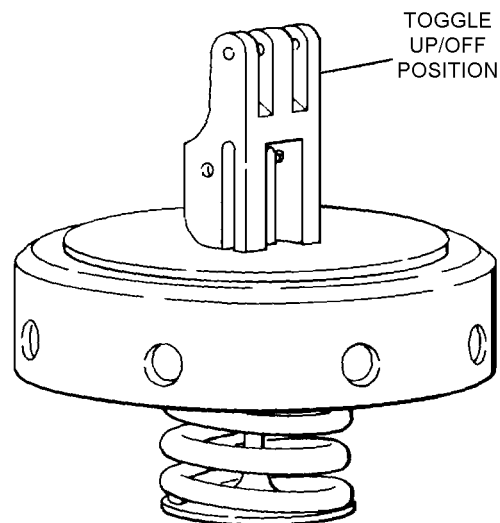
Step 3f - Para 3-62

g. With hole in toggle and hole in plunger aligned, insert new spring pin using spring pin installation tool. Insert spring pin into toggle hole as far as tool will permit. Remove tool and gently drive remainder of spring pin into toggle, using drift pin.

h. Slowly open vise jaws and ensure that assembly is properly secured.

i. Remove adjustment assembly from toggle and plunger jaws.

j. Using toggle reset tool, rotate toggle to upright (OFF) position.



63-1188

Step 3j - Para 3-62

k. Position reducer assembly with cap adjustment side up.

l. Install lock ring onto reducer body.

NOTE

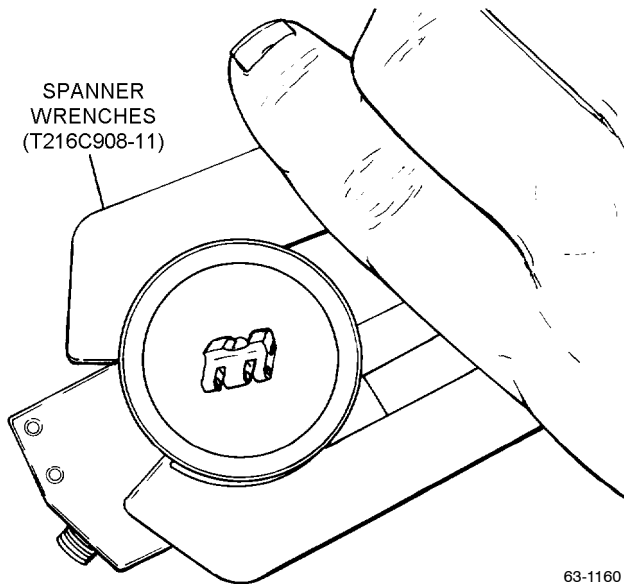
Ensure lock ring does not contact adjustment assembly during installation.

m. Install adjustment assembly onto reducer body by engaging screw threads and rotating clockwise to its lowest position.

n. Back off adjusting cap two complete turns for preadjustment.

o. Turn lock ring counterclockwise until snug with adjusting cap.

p. Place one spanner wrench (T216C908-11) in lock ring and second spanner wrench on adjusting cap and secure.



Step 3p - Para 3-62

4. Assemble oxygen gage, filler valve, adapter, and plug (figure 3-15) as follows:

a. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

b. Apply antiseize tape to threads of oxygen gage. Install gage.

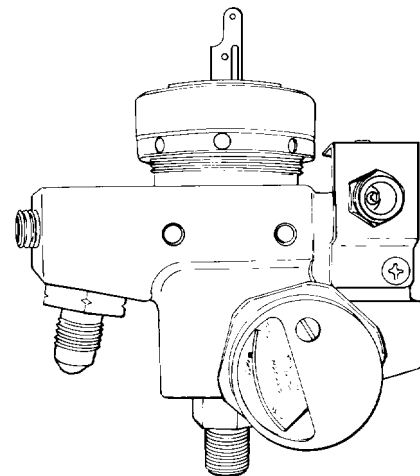
c. Install new filter in filler valve port.

d. Apply antiseize tape to threads of filler valve assembly. Install filler valve assembly.

e. Place retainer over valve body. Apply thread locking compound to screw threads. Insert two screws into retainer and fasten.

f. Apply antiseize tape to threads of plug and install.

g. Lubricate new O-ring and mating surfaces with Krytox 240AZ. Install O-ring in adapter and install adapter into reducer housing.



Step 4g - Para 3-62

3-63. ADJUSTMENT.

3-64. ADJUSTMENT OF PRESSURE REDUCER ASSEMBLY. Adjust flow rate and outlet pressures on the reducer assembly as follows:

Support Equipment Required

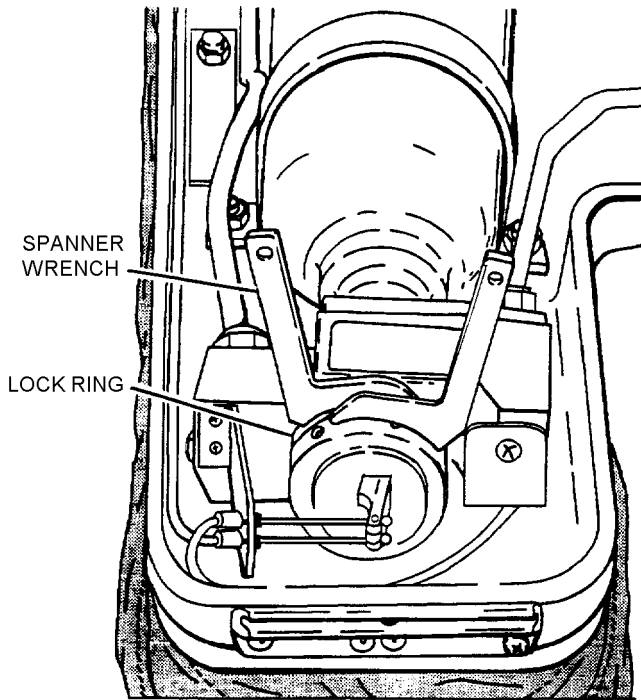
Quantity	Description	Reference Number
2	Spanner Wrench (Note 1)	T216B907-11 (Note 3)
	or	
2	Spanner Wrench (Note 2)	T216C908-11 (Note 3)

- Notes:
- 1. Used when pressure reducer is installed in survival kit.
 - 2. Used when pressure reducer is removed from survival kit.
 - 3. The spanner wrenches are part of Pressure Reducer Tool Set P/N T216D900-1 (CAGE 30941).

NOTE

Although the following illustrations depict adjustment of the pressure reducer installed on the upper lid assembly, procedures for a disconnected reducer are the same with the exception of the spanner wrenches used in the adjustment procedures. See Support Equipment Required for correct spanner wrenches.

- 1. Using spanner wrenches, loosen pressure reducer lock ring.



Step 1 - Para 3-64

- 2. Turn adjusting cap counterclockwise to decrease pressure or clockwise to increase pressure.
- 3. Tighten pressure reducer lock ring.
- 4. Perform functional check on kit in accordance with paragraph 3-39.

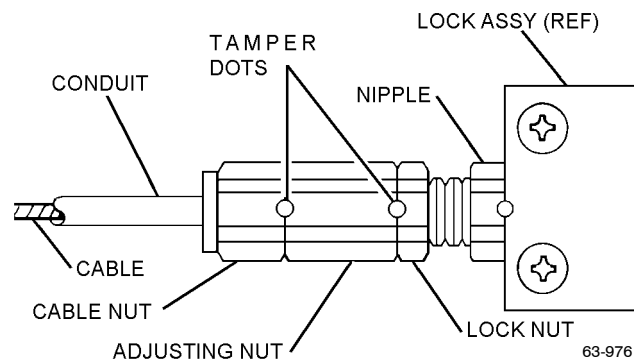
3-65. ADJUSTMENT OF LOCKS AND LID LOCK RELEASE ASSEMBLIES. If lid locks fail to release simultaneously, adjust (advance or retard) as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Lacquer, Fed. Std. 595	MIL-L-7178 (Note 1)

- Notes:
- 1. Use any contrasting color.

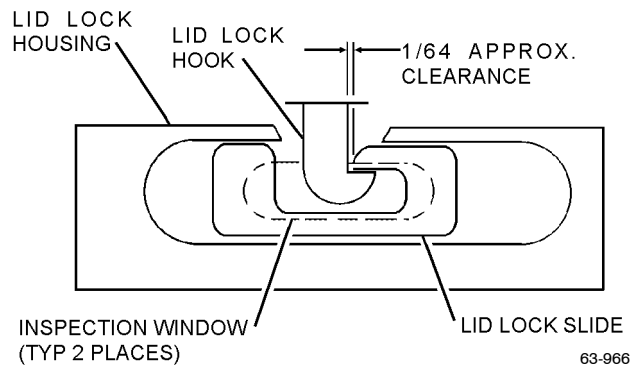
- 1. To advance release operation, loosen lock nut and back off adjusting nut away from assembly to desired amount.



Step 1 - Para 3-65

- 2. When desired timing is achieved, tighten lock nut against adjusting nut.
- 3. To retard release operation, proceed in accordance with steps 1 and 2, except adjusting nut is adjusted toward assembly.

4. Check latches for proper engagement of upper container hooks.



Step 4 - Para 3-65

NOTE

Use any contrasting color when applying tamper dots to oxygen fittings.

5. Apply tamper dots on nuts with lacquer.

3-66. ADJUSTMENT OF AUTOMATIC EMERGENCY OXYGEN ACTUATION CABLE. To inspect and adjust the automatic emergency oxygen lanyard, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Lacquer, Fed. Std. 595	MIL-L-7178 (Note 1)

Notes: 1. Use any contrasting color.

Support Equipment Required

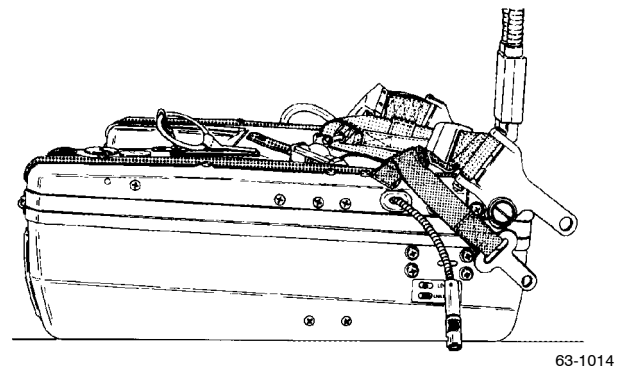
Quantity	Description	Reference Number
1	Automatic Emergency Oxygen Actuation Cable Adjustment Gage	Fabricate IAW paragraph 3-75
	Weight, 5 pounds	—

1. Remove plug (8, figure 3-27).

2. Using a flashlight, visually inspect position of cable balls (81 and 90, figure 3-27), insure cable balls are not wrapped around reducer toggle (22, figure 3-29) and jammed against inside of kit lid.

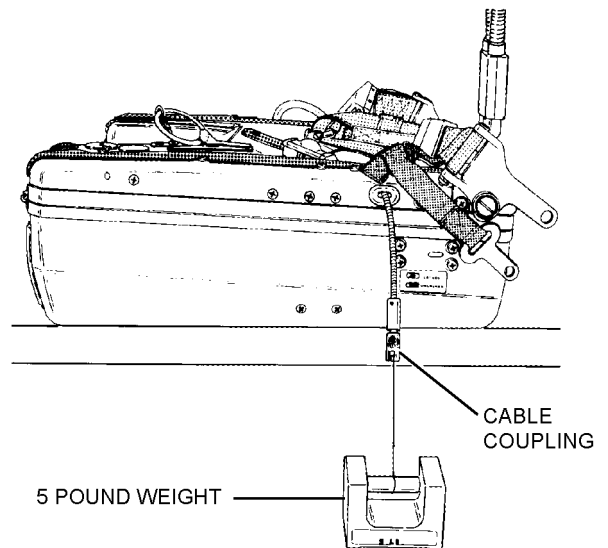
3. If cable balls are not properly positioned, open SKU-2/A and position cable balls so that toggle is free to move and close kit.

4. Position the left side of the SKU-2/A along the tables edge.



Step 4 - Para 3-66

5. Place the automatic emergency oxygen cable in a downward position and attach a 5-pound weight to the cable coupling. Allow cable to hang free.



Step 5 - Para 3-66

6. Fabricate an automatic emergency oxygen actuation cable adjustment gage in accordance with paragraph 3-75.

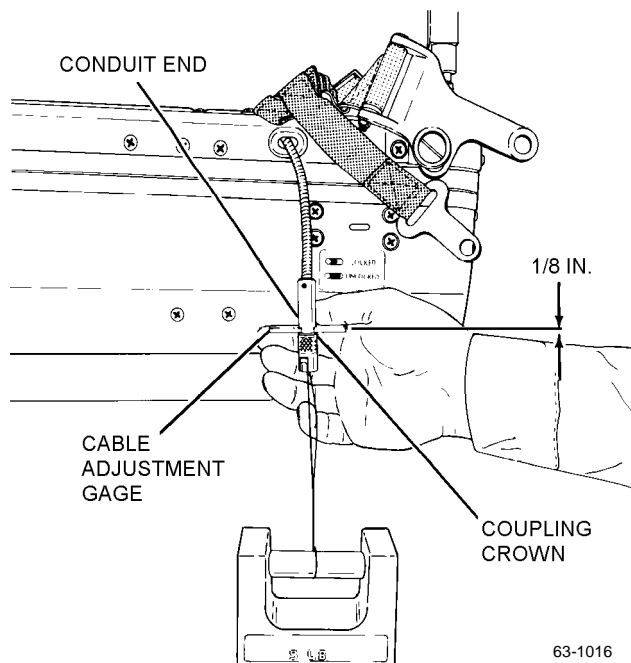
NOTE

With a weight of 5 pounds attached to the cable coupling a slack of 1/8 inch shall exist between the crown of the coupling and the end of the conduit.

7. Insert the automatic emergency oxygen actuation cable adjustment gage between the crown of the coupling and the end of the conduit and measure the gap.

NOTE

If more or less than the 1/8-inch thickness of the adjustment gage exists, adjust the cable assembly in accordance with [steps 8 thru 17](#).



Step 7 - Para 3-66

8. Remove the 5 pound weight from the cable coupling and open kit.

9. Loosen clamp (83, [figure 3-27](#)).

10. Loosen nuts (91 and 92, [figure 3-27](#)) and turn barrel (89, [figure 3-27](#)) to increase or decrease slack as required.

11. Close kit and attach the 5-pound weight to the cable coupling. Check slack in accordance with [step 7](#).

CAUTION

Ensure that SKU-2/A oxygen outlet port to aircrewmember is either capped or the Hose Assembly (NAVAIR 13-1-6.3-1) is installed.

12. Actuate reducer by pulling downward on cable coupling. Reducer shall trip to "ON" position followed by disconnection of coupling.

WARNING

When resetting reducer toggle ensure toggle is in the vertical (cocked) position and ensure cables and cable balls are not wrapped around reducer toggle and jammed against the inside of the kit lid.

13. Open kit, reset pressure reducer toggle and ensure toggle is in the vertical (cocked) position and cables and cable balls are not wrapped around reducer toggle and jammed against the inside of the kit lid. Connect coupling.

14. Tighten clamp (83, [figure 3-27](#)).

15. Tighten nuts (91 and 92, [figure 3-27](#)).

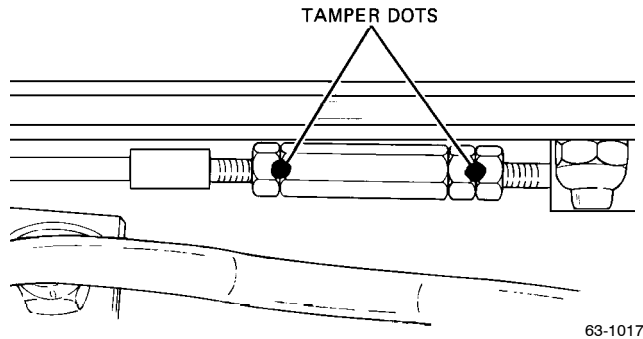
16. Repeat [steps 12 and 13](#).

17. Close kit and attach 5-pound weight to cable coupling. Check slack in accordance with [step 7](#).

NOTE

Use any contrasting color when applying tamper dots to oxygen fittings.

18. Open kit and apply lacquer (MIL-L-7178) tamper dots on nuts and barrel.



Step 18 - Para 3-66

19. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

3-67. ADJUSTMENT OF RELIEF VALVE. If the relief valve fails to unseat within the 120 to 140 psi tolerance, proceed to adjust the valve as follows:

NOTE

Either of two types of relief valves may be used, an adjustable cap type or an adjustable three-prong pressure nut type ([figure 3-17](#)).

Support Equipment Required

Quantity	Description	Reference Number
1	Cap Adjustable Relief Valve Adjustment Tool	Fabricate IAW paragraph 3-78
1	Pressure-Nut Adjustable Relief Valve Adjustment Tool	Fabricate IAW paragraph 3-78

1. Bleed pressure to zero and remove relief valve.

NOTE

Turn in incremental adjustments of 1/2 ± 1/4 turns.

2. Adjust the valves unseating pressure by turning the cap or pressure nut clockwise to increase relief valve pressure and counterclockwise to decrease ([figure 3-17](#)).

3. Install oxygen relief valve.

4. Perform functional check in accordance with [paragraph 3-39](#).

Section 3-7. Fabrication

3-68. GENERAL.

3-69. This section contains instructions for fabrication of tools and components that can be manufactured by local maintenance activities.

3-70. TOGGLE RESET TOOL. To fabricate a toggle reset tool, proceed as follows:

1. Modify a standard slot screwdriver in accordance with [figure 3-18](#).

3-71. DROPLINE. To fabricate a dropline, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, 3/4-Inch Yellow	MIL-W-5625 NIIN 00-753-6531
As Required	Thread, Nylon, Type I, Class A, Size FF, Color: White	V-T-295 NIIN 00-267-3024

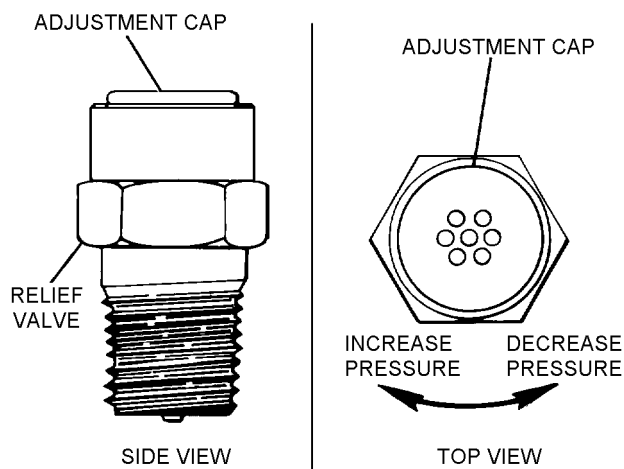
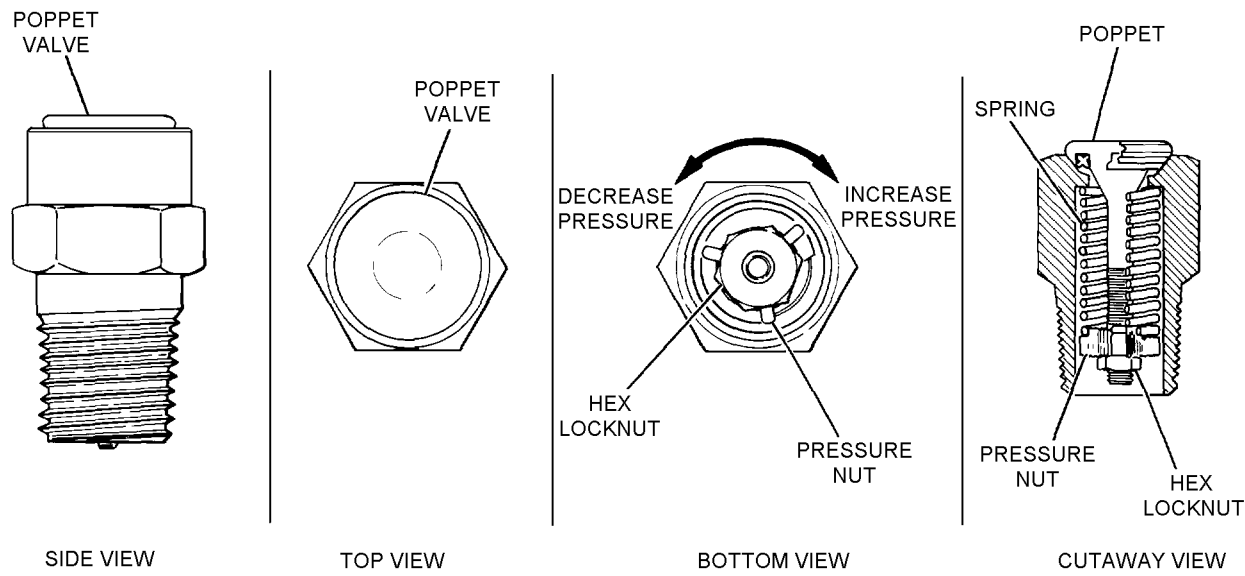


Figure 3-17. Adjustable Relief Valves

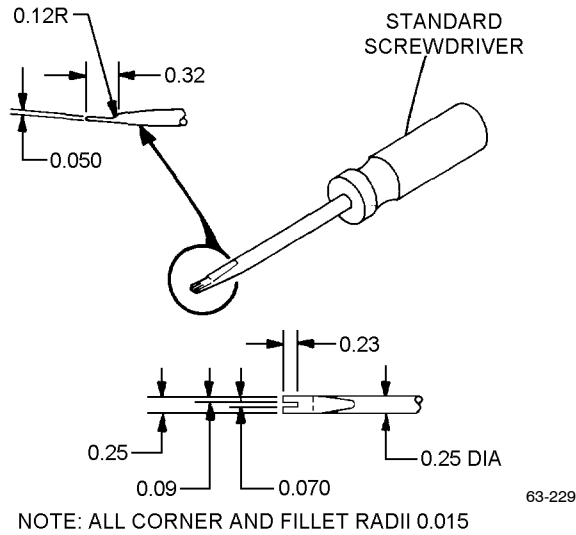
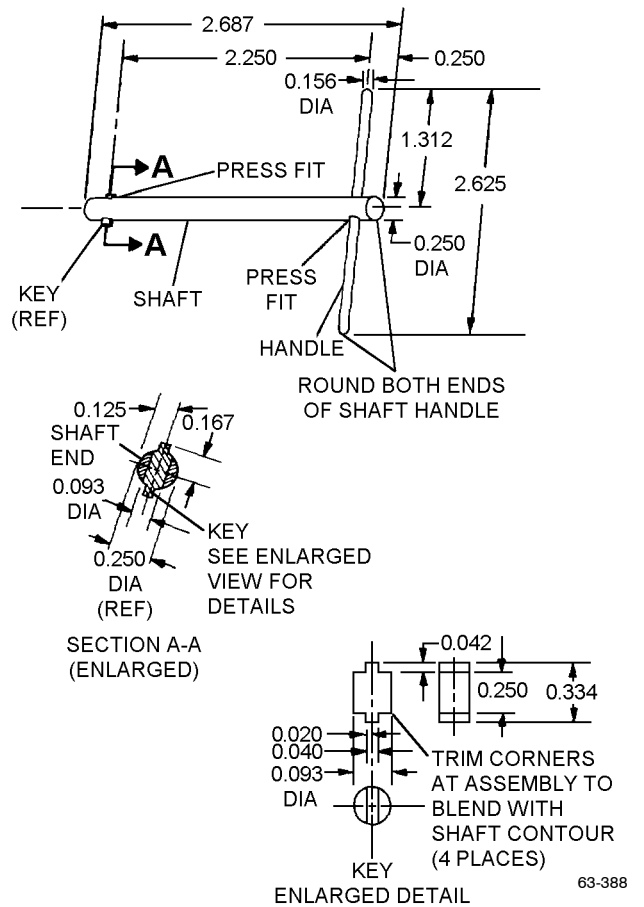


Figure 3-18. Toggle Reset Tool

1. Lay out webbing and position identification yarn on top before proceeding.
2. Construct a dropline in accordance with [figure 3-19](#).
3. Sear exposed ends of webbing.
4. All stitching shall be ASTM-D-6193, Type 301, 8 to 10 stitches per inch, and backstitch 1/2 inch minimum.

3-72. T-WRENCH. To fabricate a T-wrench, proceed as follows:

1. Fabricate wrench from steel as shown.



Step 1 - Para 3-72

3-73. BOOT. To fabricate a boot, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nylon	MIL-C-8135 or MIL-C-81395
As Required	Thread, Nylon, Type I, Class A, Size FF, White	V-T-295 NIIN 00-267-3024

1. Construct a boot in accordance with [figure 3-20](#).

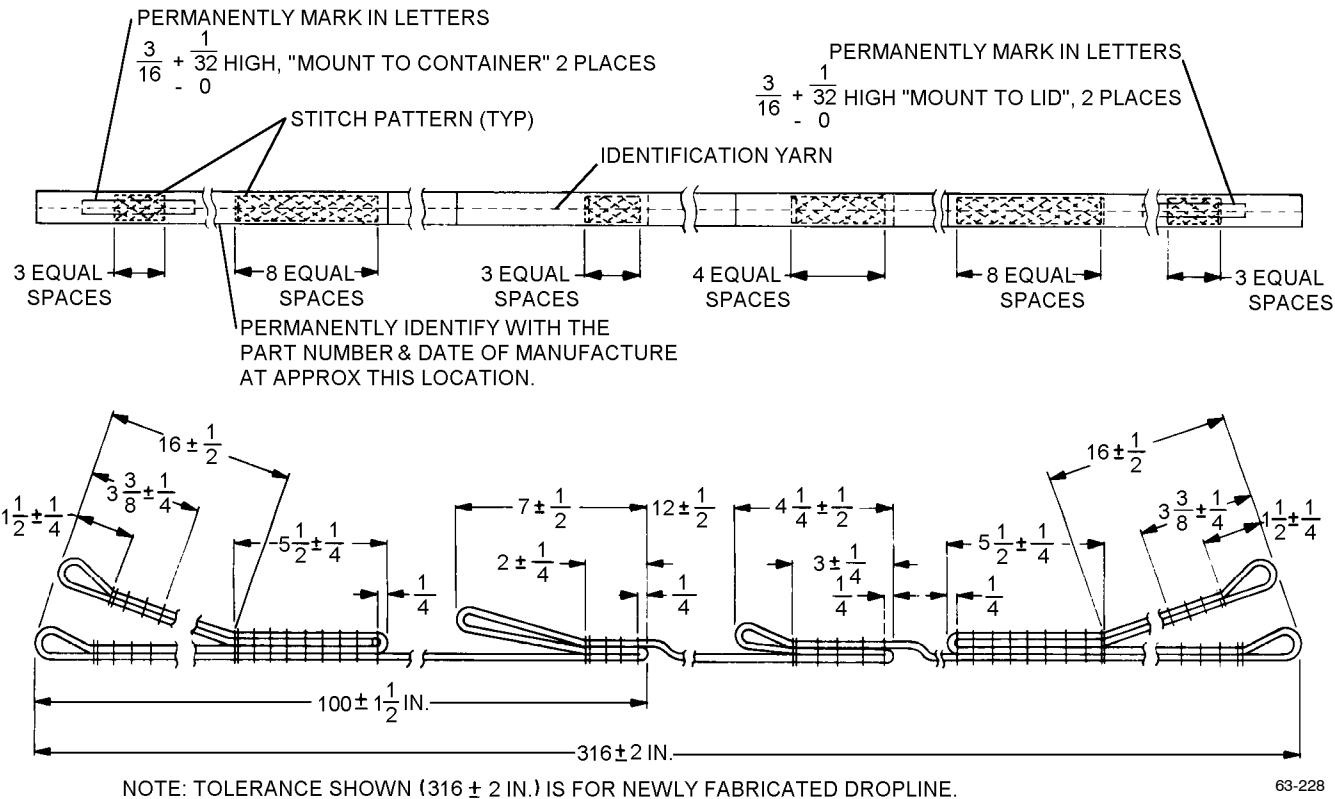


Figure 3-19. Dropline

2. Sear exposed ends of edges.
3. All stitching shall be ASTM-D-6193, Type 301, 8 to 10 stitches per inch, and backstitch 1/2 inch minimum.

3-74. LIFERAFT PACKING AID. To fabricate a life-raft packing aid, proceed as follows:

1. Fabricate packing aid as shown in figure 3-21.

3-75. AUTOMATIC EMERGENCY OXYGEN ACTUATION CABLE ADJUSTMENT GAGE. To fabricate an automatic emergency oxygen actuation cable adjustment gage, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Aluminum Sheet 1/8-inch Thick	7075T6 or Equivalent

1. Cut a 2-inch x 2-inch piece from a 1/8-inch thick aluminum sheet stock (figure 3-22).

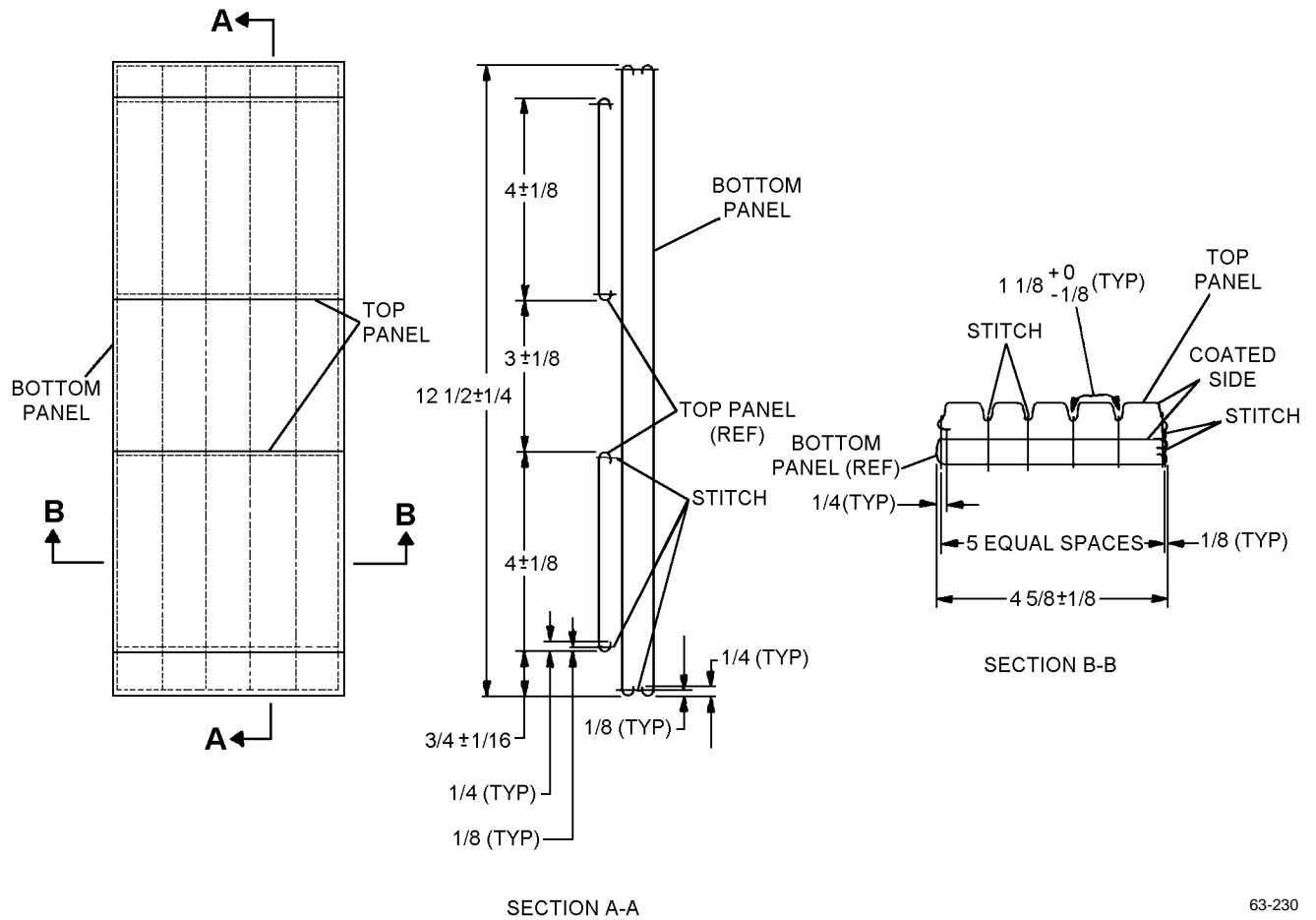
2. Mill a 3/8-inch wide x 1/2-inch long slot perpendicular to one side of the cut piece.

3-76. BRAKE RIDER'S STRAP. To fabricate a brake rider's strap, proceed as follows:

Materials Required

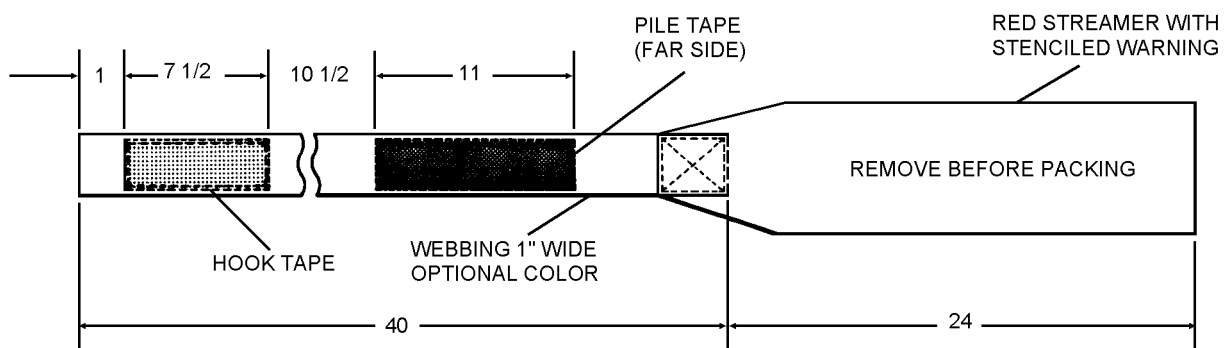
Quantity	Description	Reference Number
2	Release Assembly Lapbelt Fitting	015-11366-1 (CAGE 99449)
24 Inches	Webbing, Nylon, Type XXVII, 1 23/32 Inches Wide	MIL-W-4088 NIIN 00-530-1489
As Required	Thread, Nylon, Type II, Class A, Size 6	V-T-295 NIIN 00-559-5211

1. Cut a piece of nylon webbing 24 inches in length.



63-230

Figure 3-20. Boot



NOTES:

1. PILE TAPE AND HOOK TAPE ARE ON OPPOSITE SIDES OF WEBBING.
2. STREAMER WITH STENCILED WARNING MUST BE MADE WITH RED MATERIAL.

63-534

Figure 3-21. Liferaft Packing Aid

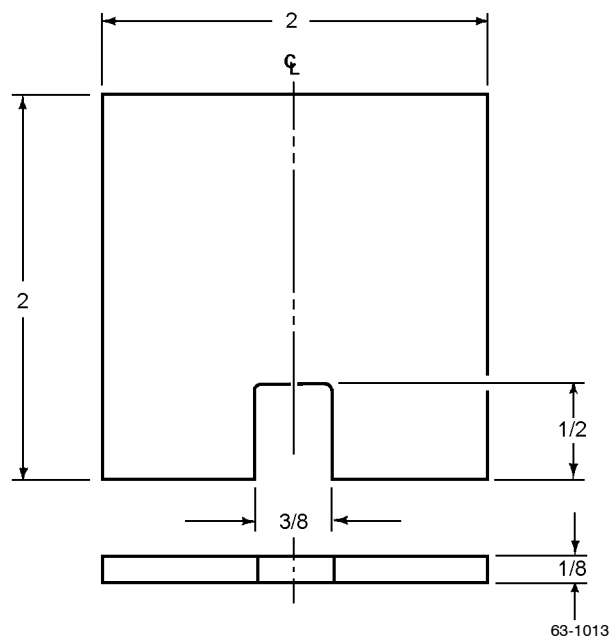
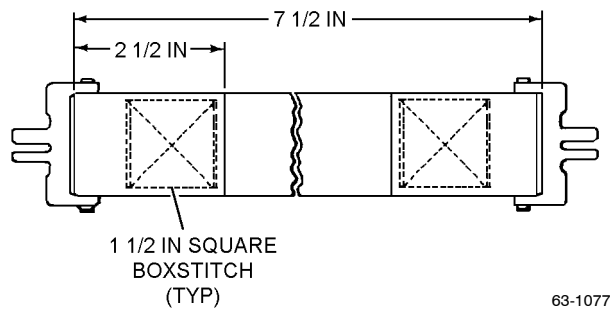


Figure 3-22. Automatic Emergency Oxygen Actuation Cable Adjustment Gage

- 2. Sear exposed ends of webbing.
- 3. Secure fittings with 1 1/2-inch square box-stitch. All stitching shall be ASTM-D-6193, Type 301, 4 to 6 stitches per inch, and backstitch 1/2 inch minimum.



Step 3 - Para 3-76

3-77. CONTAINER ASSEMBLY PAD. To fabricate a container assembly pad, P/N 221D460-11, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
1	Cork Sheet, 0.062-Inch Thick	MIL-T-6841

- 1. Fabricate a container assembly pad in accordance with figure 3-23.
- 2. Rubber stamp part number on container assembly pad.

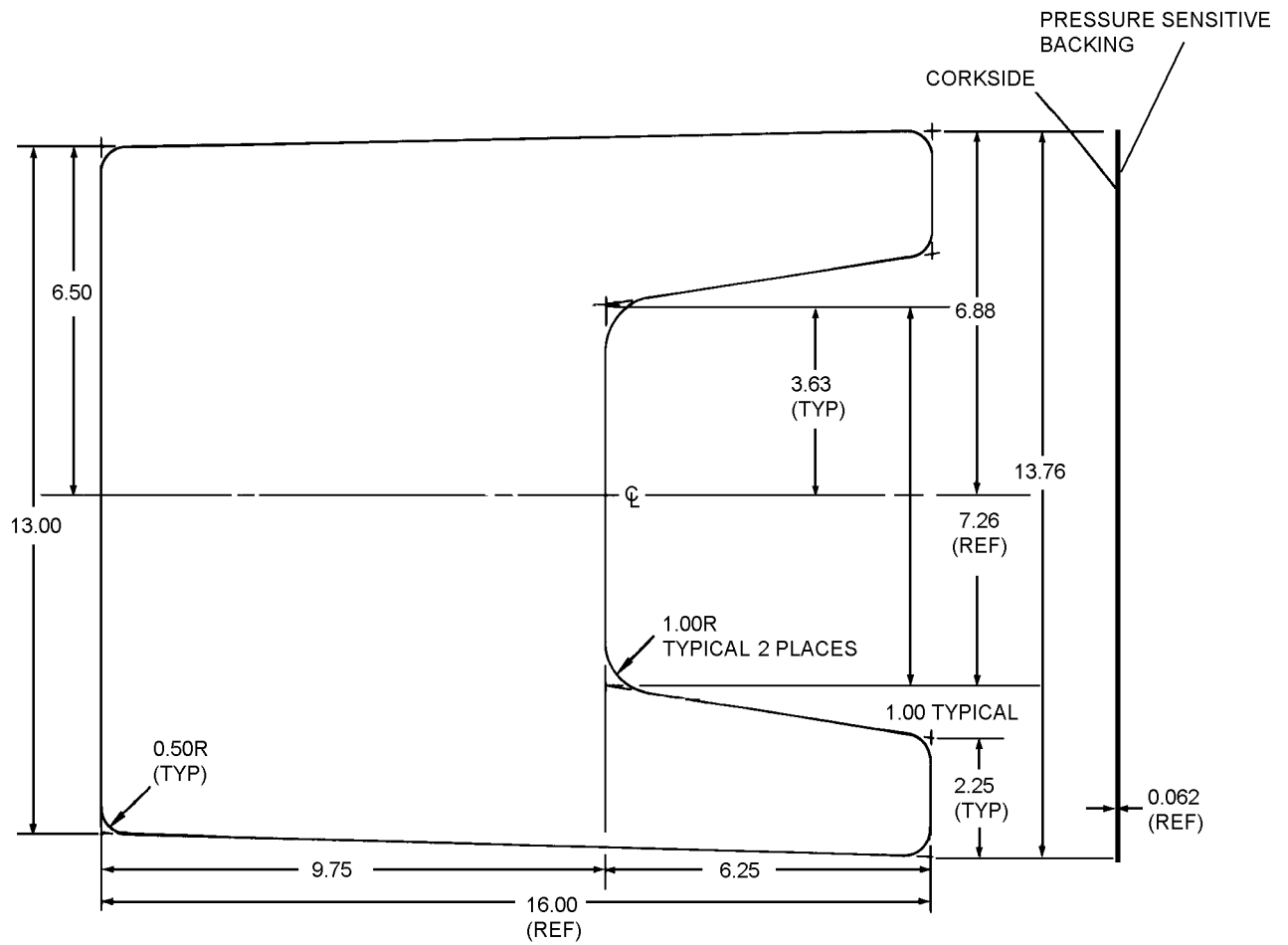
3-78. RELIEF VALVE ADJUSTMENT TOOL. To fabricate a relief valve adjustment tool, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Mild Steel or Brass, 0.125 Thick	—
As Required	Drill Rod, 0.062 Dia.	—
As Required	Drill Rod, 0.25 Dia.	—

- 1. Depending upon which type relief valve is being used, fabricate the correct adjustment tool in accordance with figure 3-24.
- 2. Press fit the pins into the holes on the plate when fabricating the cap adjustable relief valve.

3-79. (F-14A) ACTUATION LANYARD (AN/URT-33 RADIO BEACON). To fabricate an actuation lanyard P/N A51D60016-5, proceed as follows:

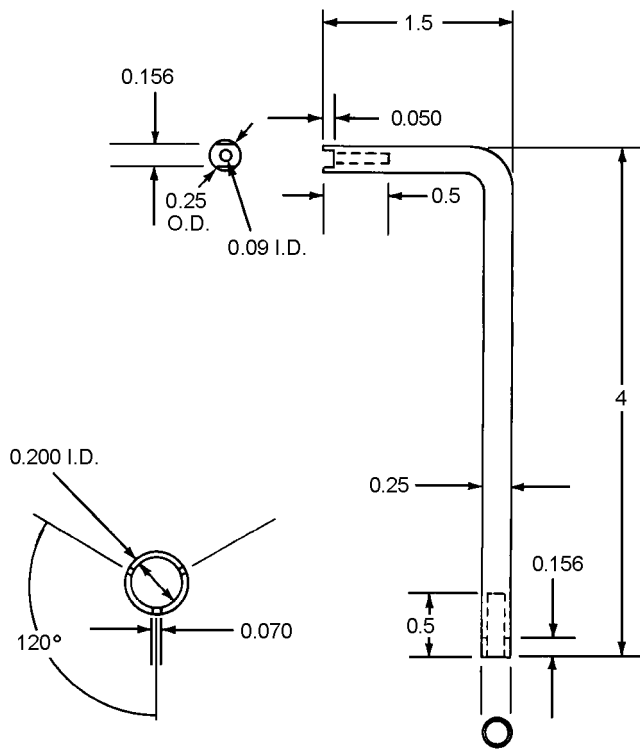
Materials Required		
Quantity	Description	Reference Number
As Required	0.06 dia. Plastic Coated Cable	GL10B (CAGE 26512)
1	Snaphook	MIL-S-43770-12A-MIZEI
2	Sleeve, Swaging	18-11B4 (CAGE 76691) (TYP)



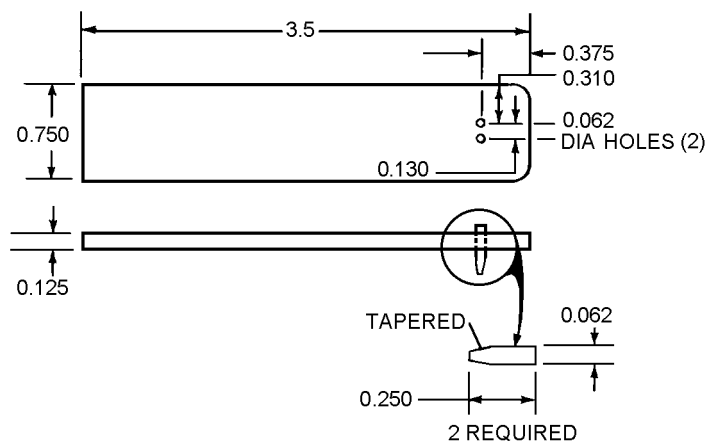
NOTES:
TOLERANCES ARE:
X.XX = ± 0.01
X.XXX = ± 0.005

63-3051

Figure 3-23. Container Assembly Pad



THREE PRONG PRESSURE NUT ADJUSTABLE TYPE

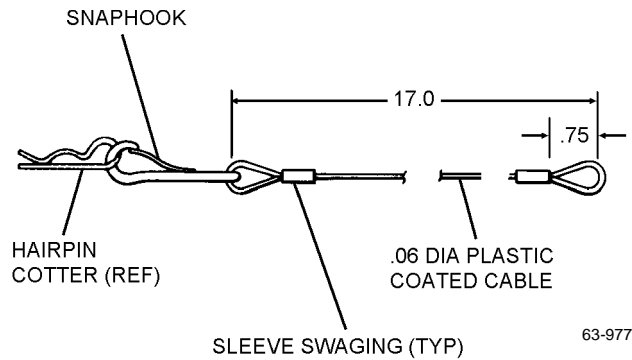


CAP ADJUSTABLE TYPE

Figure 3-24. Relief Valve Adjustment Tools

63-3053

1. Fabricate actuation lanyard from 0.06 dia. plastic coated cable wire as shown.



Step 1 - Para 3-79

3-80. (EA-6B AIRCRAFT) ACTUATION LANYARD (AN/URT-33 RADIO BEACON). To fabricate an actuation lanyard P/N 128ES10230-3, proceed as follows:

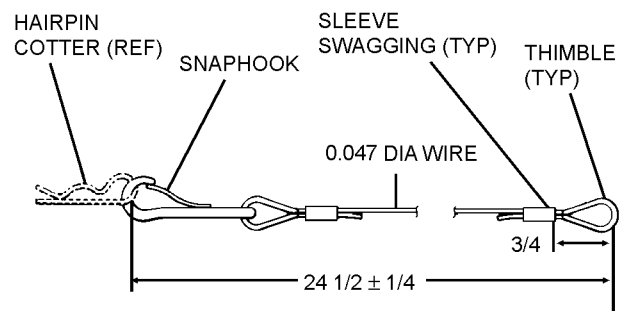
Materials Required

Quantity	Description	Reference Number
As Required	0.047 dia. Wire with Teflon Cover 0.062 O.D.	GL10B2-27 (CAGE 26512)
2	Sleeve, Swaging	GS10C2 (CAGE 26512)

Materials Required (Cont)

Quantity	Description	Reference Number
1	Snaphook	MIL-S-43770-12A-MIZEI
2	Thimble, Wire Cable, Corrosion Resistant Steel	AN10C-3

1. Fabricate actuation lanyard from 0.047 dia. wire as shown.



NOTE: WIRE BREAKING STRENGTH 270 lbs.

Step 1 - Para 3-80

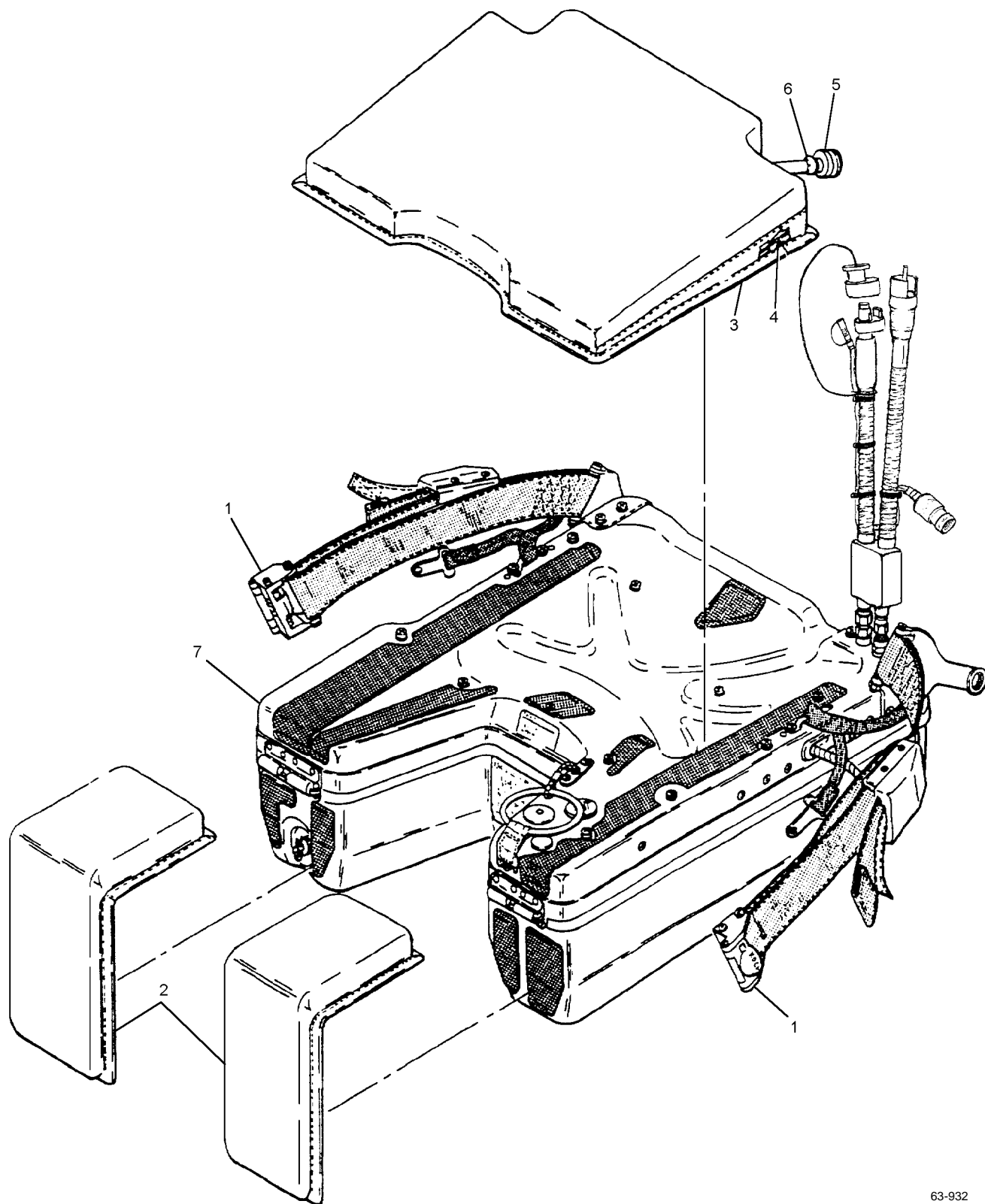
Section 3-8. Illustrated Parts Breakdown

3-81. GENERAL.

3-82. This section lists and illustrates the assemblies and detail parts of the SKU-2/A survival kit assembly as manufactured by East/West Industries. The entire

assembly is supplied by Grumman Aerospace Corporation (CAGE 26512) and is P/N 128ES10065-13.

3-83. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.



63-932

Figure 3-25. Survival Kit Assembly (SKU-2/A)

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-25 -1 -2 -3 -4 -5 -6 -7	128ES10065-13	SURVIVAL KIT ASSEMBLY, SKU-2/A (26512)	1	
	015-11365-1	. RELEASE ASSEMBLY, Lapbelt (99449) (Note 1)	2	
	128ES10070-5	. THIGH SUPPORT CUSHIONS (26512)	2	
	128ES10070-1	. THIGH SUPPORT CUSHIONS (26512) (Alternate for 128ES10070-5)	2	
	128ES10060-7	. CUSHION ASSEMBLY (26512)	1	
	128ES10060-1	. CUSHION ASSEMBLY (26512) (Alternate for 128ES10060-7)	1	
	128ES10060-9	. . COVER ASSEMBLY	1	
	128ES10060-25	. . CUSHION ASSEMBLY	1	
	128ES10060-27	. . . BLADDER ASSEMBLY	1	
	128SCES115-13	. . COUPLING	1	
	NAS397-10	. . CLAMP, Ratchet, one piece	1	
	128SCES119-1	. SURVIVAL KIT ASSEMBLY (26512)	1	
	221J100-1	. SURVIVAL KIT ASSEMBLY (30941) (See figure 3-26 for BKDN)	1	
	Notes: 1. When replacing lapbelt assembly, apply sealing, locking, and retaining compound, MIL-S-22473, to shoulder screws.			

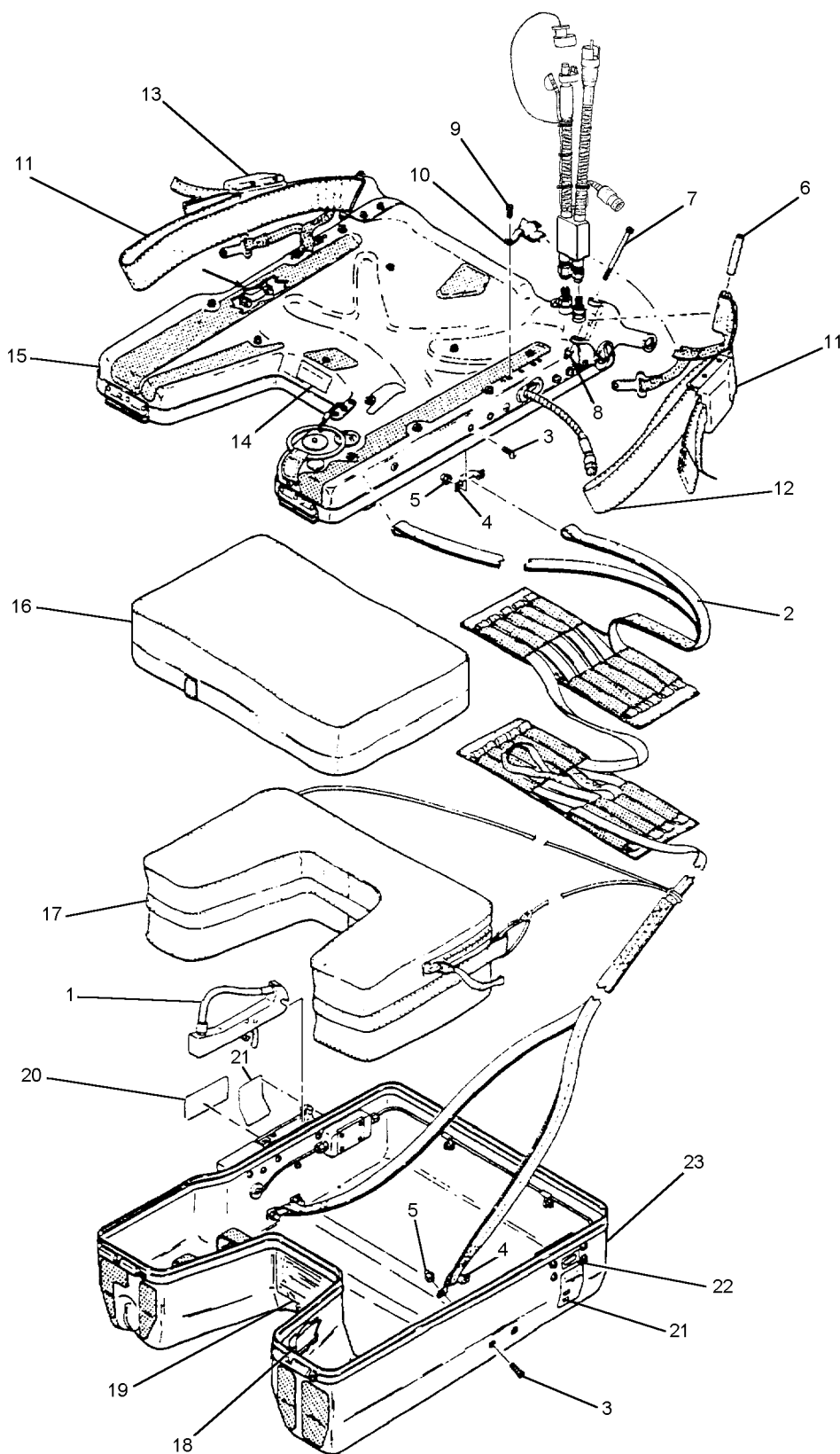
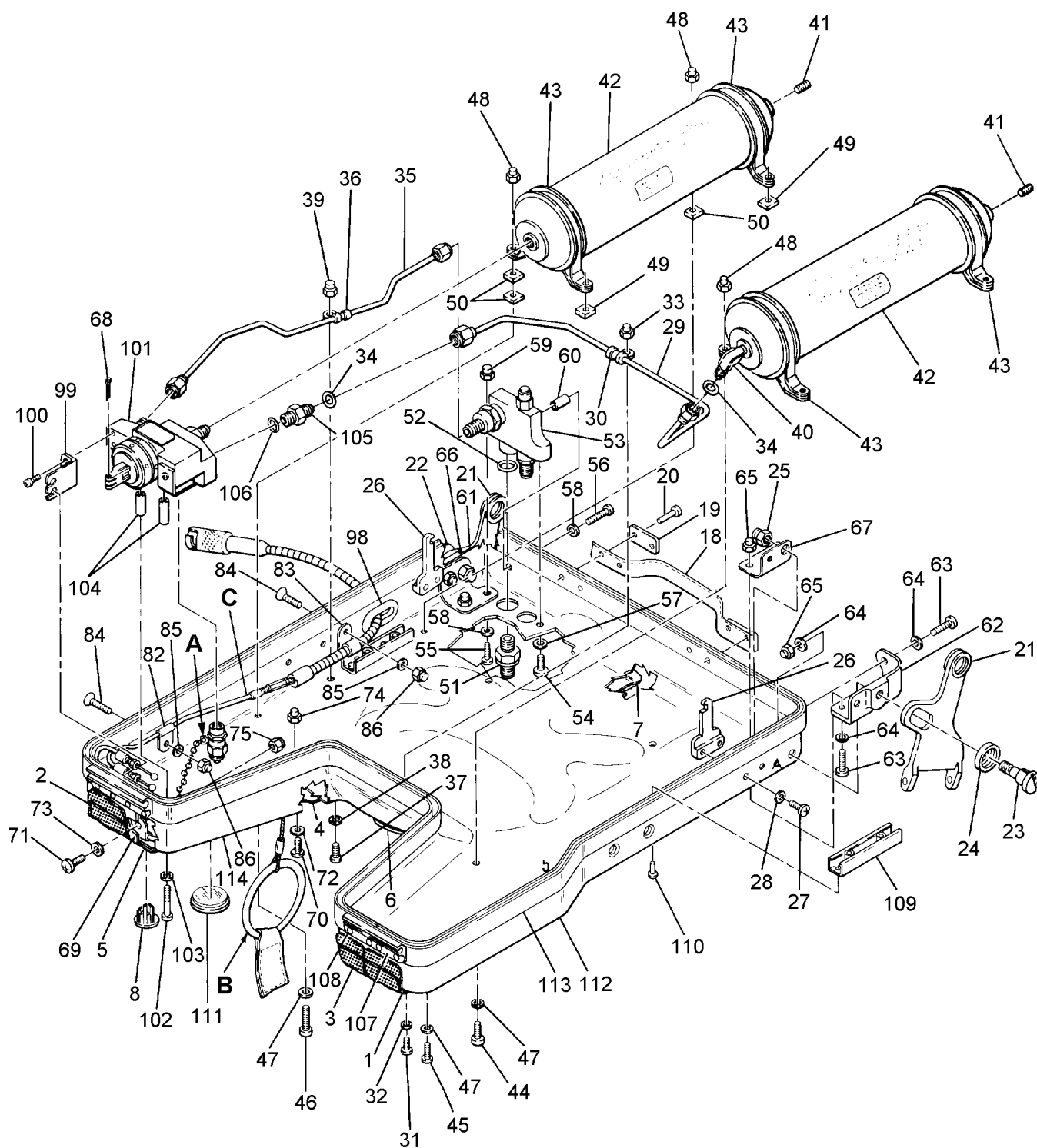


Figure 3-26. Survival Kit Assembly components (SKU-2/A)

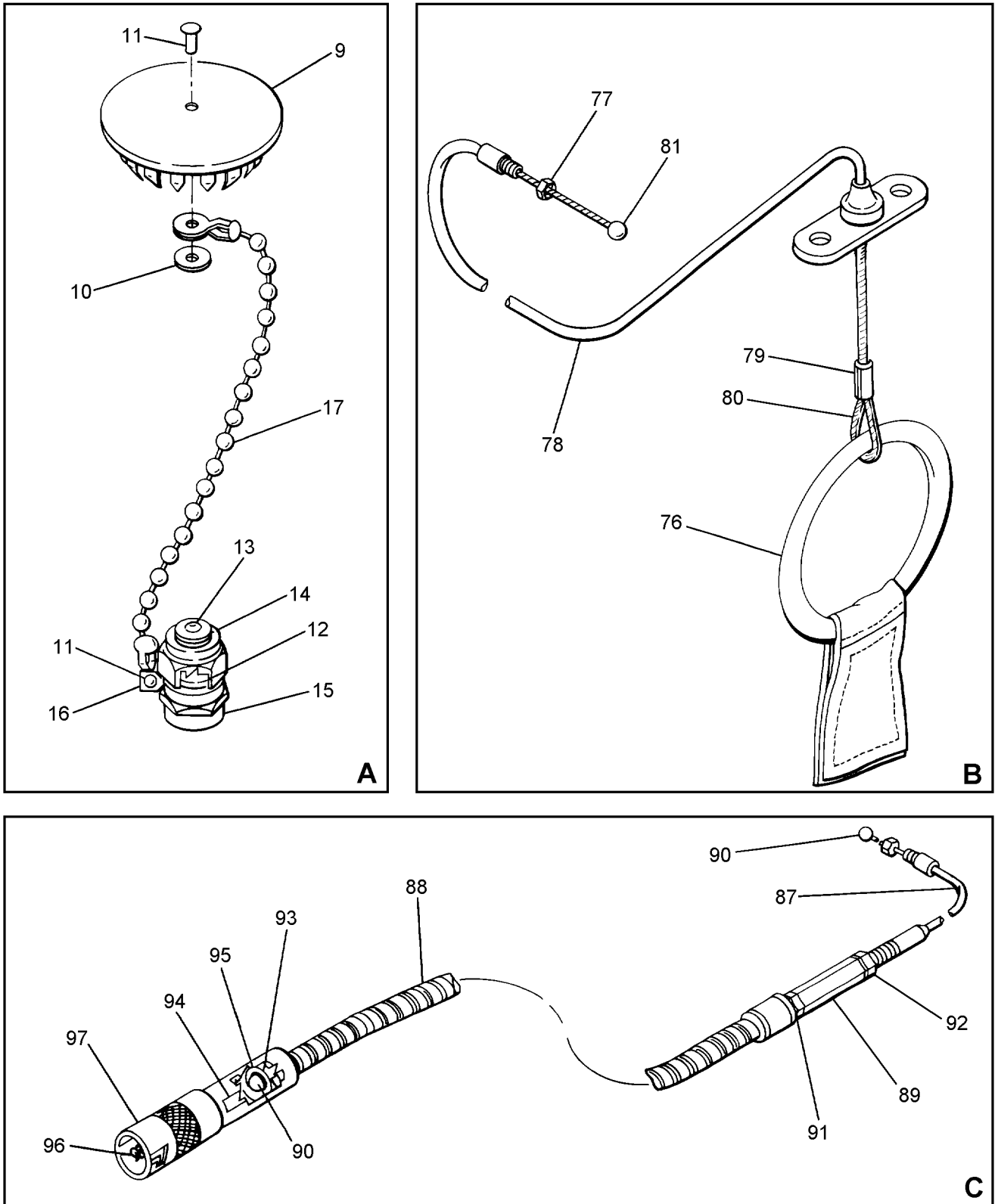
63-933A

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
3-26	221J100-1	SURVIVAL KIT ASSEMBLY (See figure 3-25 for NHA)	REF	
-1	102D550-3	. HANDLE ASSEMBLY, Release	1	
-2	102D620-5	. LANYARD ASSEMBLY, Retaining (30941) (ATTACHING PARTS)	1	
-3	MS51960-64	. SCREW, Machine flat hd. (10-32 x 0.44 lg.)	8	
-4	102C101-11	. BRACKET, Footman	4	
-5	22K1-02	. NUT, Cap (10-32)	8	
		---*---		
	221D680-1	. HARNESS ASSEMBLY, LH	1	
	221D680-2	. HARNESS ASSEMBLY, RH	1	
		(ATTACHING PARTS)		
-6	221B210-11	. ROLLER, Harness retention	2	
-7	221B691-11	. PIN, Harness retention	2	
-8	22K1-02	. NUT, Cap (10-32)	2	
-9	MS35207-262	. SCREW, Machine, panhead (10-32 x 0.44 lg.)	4	
-10	102C101-13	. BRACKET, Footman	2	
		---*---		
-11	GA506D1	. . ADJUSTER, Restraint harness (26512)	1	
	184C100-1	. . ADJUSTER, Restraint harness (30941)	1	
		(Interchangeable with GA506D1 in pairs only)		
-12	221D690-1	. . HARNESS ASSEMBLY, LH	1	
-13	221D690-2	. . HARNESS ASSEMBLY, RH	1	
-14	221C914-11	. NAME PLATE, Lid	1	
-15	221J200-1	. LID ASSEMBLY,	1	
		(See figure 3-27 for BKDN)		
-16	221D610-1	. COVER, Raft	1	
-17	221D615-1	. CONTAINER ASSEMBLY, Equipment	1	
-18	221C914-13	. NAME PLATE, Container	1	
-19	221C913-11	. NAME PLATE, SKU-2/A	1	
-20	102D499-17	. LABEL, Warning	1	
-21	102D499-23	. LABEL, Indicating	2	
-22	NO. 850	. TAPE, Mylar clear (1/2 inch)	A/R	
-23	221J400-1	. CONTAINER ASSEMBLY, Lower,	1	
		(See figure 3-30 for BKDN)		



63-9341A

Figure 3-27. Lid Assembly (Sheet 1 of 2)



63-9342A

Figure 3-27. Lid Assembly (Sheet 2 of 2)

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-27	221J200-1	LID ASSEMBLY, (See figure 3-26 for NHA)	REF	
-1	221D230-11	. TAPE, Fastener pile (Note 3)	1	
-2	221D230-13	. TAPE, Fastener pile (Note 3)	1	
-3	221D230-15	. TAPE, Fastener pile (Note 3)	1	
-4	221D230-17	. TAPE, Fastener pile (Note 3)	1	
-5	221D230-19	. TAPE, Fastener pile (Note 3)	1	
-6	221D230-21	. TAPE, Fastener pile (Note 3)	1	
-7	221D230-23	. TAPE, Fastener pile (Note 3)	1	
-8	SS51338	. PLUG (77132)	1	
	221C280-1	. PLUG AND CAP ASSEMBLY	1	
-9	221B281-11	. . PLUG	1	
-10	MS15795-802	. . WASHER, Flat	1	
-11	MS16535-89	. . RIVET, Oval hd	2	
-12	102C381-11	. . PIVOT	1	
-13	COML	. . SCREW, Drive (4 x .25 type II)	1	
-14	AN960-C4	. . WASHER, Flat	1	
-15	221B382-11	. . CAP	1	
-16	221B282-11	. . STRAP	1	
-17	221C280-11	. . CHAIN, Safety (3.50 ±.12 lg.)	1	
-18	221B710-11	. HANDLE, Carrying	1	
-19	221B711-11	. RETAINER, Handle	2	
		(ATTACHING PARTS INDEX NOS. 18, 19)		
-20	MS20470AD4-8	. RIVET, Solid universal hd. ---*---	4	
-21	221C645-11	. FITTING, Rear	2	
		(ATTACHING PARTS)		
-22	221B646-11	. PIN, Rear attachment LH (1.25 in. lg.)	1	
-23	221B646-13	. PIN, Rear attachment RH (1.42 in. lg.)	1	
-24	221B648-11	. WASHER, Anti-Chafing	2	
-25	22K2-048	. CAPNUT (1/4-28) (22599)	2	
		---*---		
-26	230C535-13	. LATCH, Lid	2	
		(ATTACHING PARTS)		
-27	MS35207-262	. SCREW, Pan hd. (10-32 x 0.44 lg.)	4	

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
3-27-28	AN960PD10L	. WASHER, Flat	4	
		---*---		
-29	221D354-1	. TUBE ASSEMBLY (ATTACHING PARTS)	1	
-30	MS21919DG3	. CLAMP, Cushioned support	1	
-31	MS35207-263	. SCREW, Pan hd. (10-32 x 0.50 lg.)	1	
-32	AN960PD10L	. WASHER, Flat	1	
-33	22K2-02	. CAPNUT (10-32) (22599)	1	
		---*---		
-34	EW60001	. WASHER, Conical flare	2	
	VSF1015S3	. WASHER, Conical flare (92215)	2	
-35	221D355-1	. TUBE ASSEMBLY (ATTACHING PARTS)	1	
-36	MS21919DG4	. CLAMP, Cushioned support	1	
-37	MS35207-263	. SCREW, Pan hd. (10-32 x 0.50 lg.)	1	
-38	AN960PD10L	. WASHER, Flat	1	
-39	22K2-02	. CAPNUT (10-32) (22599)	1	
		---*---		
-40	MS20822-3C	. ELBOW, Flared tube and pipe thread	1	
-41	AN932-S2	. PLUG, Countersink hex hd. pipe	2	
-42	235D200-1	. CYLINDER, Oxygen (ATTACHING PARTS)	2	
-43	NAS1716C40T	. CLAMP ASSEMBLY, Cushioned saddle	4	
-44	MS35207-263	. SCREW, Pan hd. (10-32 x 0.50 lg.)	4	
-45	MS35207-265	. SCREW, Pan hd. (10-32 x 0.75 lg.)	2	
-46	MS35207-266	. SCREW, Pan hd. (10-32 x 0.88 lg.)	2	
-47	AN960PD10L	. WASHER, Flat	8	
-48	22K2-02	. CAPNUT (10-32) (22599)	8	
		---*---		
-49	221B322-11	. SPACER	2	
-50	221B322-13	. SPACER	3	
-51	2624A-4TT	. CHECK VALVE (91816) (Note 7)	1	
-52	MS9068-011	. O-RING	1	

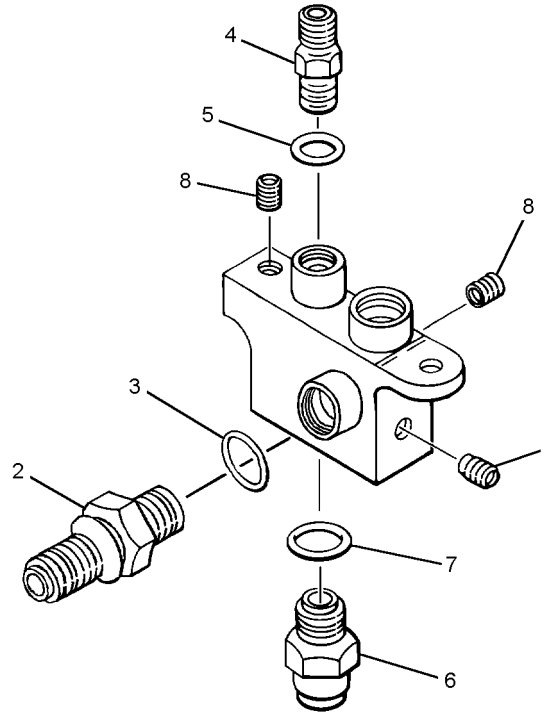
NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
3-27-53	221D317-1	. MANIFOLD ASSEMBLY, (See figure 3-28 for BKDN) (ATTACHING PARTS)	1	
-54	MS35207-262	. SCREW, Pan hd. (10-32 x 0.44 lg.)	1	
-55	MS35207-264	. SCREW, Pan hd.	1	
-56	MS35207-266	. SCREW, Pan hd. (10-32 x 0.88 lg.)	1	
-57	AN960PD10	. WASHER, Flat	1	
-58	AN960PD10L	. WASHER, Flat	2	
-59	22K2-02	CAPNUT (10-32) (22599) ---*---	1	
-60	221B321-11	. STANDOFF	1	
-61	221C640-11	. BRACKET, Rear LH	1	
-62	221C642-11	. BRACKET, Rear RH	1	
		(ATTACHING PARTS FOR INDEX NOS. 61 and 62)		
-63	MS35207-263	. SCREW, Pan hd. (10-32 x 0.50 lg.)	7	
-64	AN960PD10L	. WASHER, Flat	9	
-65	22K2-02	. CAPNUT (10-32) (22599) ---*---	7	
-66	221C241-11	. PLATE, Back-up LH	1	
-67	221C242-11	. PLATE, Back-up RH	1	
	221D345-1	. RELEASE ASSEMBLY, O ₂ manual	1	
		(ATTACHING PARTS)		
-68	MS24665-88	. PIN, Cotter (Note 4)	1	
-69	MS25281-F2	. CLAMP, Loop-plastic	1	
-70	MS35206-244	. SCREW, Pan hd.	2	
-71	MS35207-263	. SCREW, Pan hd. (10-32 x 0.50 lg.)	1	
-72	AN960PD8L	. WASHER, Flat	2	
-73	AN960PD10L	. WASHER, Flat	1	
-74	22K1-82	. NUT	2	
-75	22K2-02	. CAPNUT (10-32) (22599) ---*---	1	
-76	220C102-1	. . RING, Release assembly	1	
-77	221B363-13	. . NUT	1	
-78	221D349-1	. . CONDUIT ASSEMBLY	1	
-79	EW54006	. . SLEEVE, Oval	1	
-80	220B116-17	. . LOOP	1	

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
3-27-81	EW54002	.	.	BALL, Plain	.	.	.	.	1	
	221D390-1	.	.	RELEASE ASSEMBLY, O ₂ automatic	.	.	.	.	1	
				(ATTACHING PARTS)						
-82	MS25281-F2	.	.	CLAMP, Loop plastic	.	.	.	.	1	
-83	MS21919DG4	.	.	CLAMP, Cushioned support	.	.	.	.	1	
-84	MS35207-263	.	.	SCREW, Pan hd. (10-32 x 0.50 lg.)	.	.	.	.	2	
-85	AN960PD10L	.	.	WASHER, Flat	.	.	.	.	2	
-86	22K2-02	.	.	CAPNUT (10-32) (22599)	.	.	.	.	2	
		---	*	---						
-87	221C395-1	.	.	CONDUIT ASSEMBLY, Rigid	.	.	.	.	1	
-88	221C396-1	.	.	CONDUIT ASSEMBLY, Flexible	.	.	.	.	1	
-89	221C397-11	.	.	BARREL	.	.	.	.	1	
-90	RA2487-2	.	.	BALL, Plain	.	.	.	.	2	
-91	221B363-11	.	.	NUT	.	.	.	.	1	
-92	221B363-13	.	.	NUT	.	.	.	.	2	
-93	221B365-11	.	.	LINK	.	.	.	.	1	
-94	COML	.	.	TAPE, Pressure sensitive (Note 3)	.	.	.	.	A/R	
-95	NO. 8751	.	.	EPOXY (Note 5)	.	.	.	.	A/R	
	221C361-1	.	.	COUPLING ASSEMBLY	.	.	.	.	1	
-96	LC026BC-6	.	.	SPRING	.	.	.	.	1	
-97	221C362-11	.	.	COUPLING	.	.	.	.	1	
-98	MS35489-42	.	.	GROMMET, Rubber	.	.	.	.	1	
-99	221C860-11	.	.	BRACKET, O ₂ release	.	.	.	.	1	
				(ATTACHING PARTS)						
-100	MS35206-215	.	.	SCREW, Pan hd. (4-40 x 0.38 lg.)	.	.	.	.	2	
		---	*	---						
-101	216D800-3	.	.	REDUCER ASSEMBLY	.	.	.	.	1	
				(See Figure 3-29 for BDN)						
	216D800-7	.	.	REDUCER ASSEMBLY	.	.	.	.	1	
				(See Figure 3-29 for BDN)						
				(ATTACHING PARTS)						
-102	MS35207-267	.	.	SCREW, Pan hd. (10-32 x 1.0 lg.)	.	.	.	.	2	
-103	AN960PD10L	.	.	WASHER, Flat	2	
		---	*	---						
-104	221B321-13	.	.	STANDOFF	2	
-105	MS21900-J3	.	.	ADAPTER	1	
-106	MS9068-011	.	.	O-RING	1	

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Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-27-107	102D125-5	. HINGE ASSEMBLY (ATTACHING PARTS)	2	
-108	MS20470AD3-8	. RIVET, Solid universal hd. ---*---	8	
-109	102C281-11	. BACK PLATE	2	
-110	MS20470AD3-5	. RIVET, Solid universal hd.	6	
-111	204B201-11	. WINDOW, Gage	1	
	221J222-1	. LID ASSEMBLY, Machined	1	
	221D220-1	. . LID ASSEMBLY, Bonded	1	
-112	221J221-1	. . . LID, Moulded	1	
-113	221D110-11	. . . SEALER, Rear lid	1	
-114	221D110-15	. . . SEALER, Front lid	1	
Notes:		1. Kits supplied by East/West Industries less Koch fittings, and cushion assemblies. 2. Order from 3M Co., Minnesota or equivalent. 3. Bond to lid using #12 Super-Bonder or equivalent. Wipe area clean with Heptane Prior to bonding (allow to dry). 4. Install cotter pin in accordance with MS33540. 5. Tape to be per PPP-T-66 Type I, CL-I suggested source of supply transparent plastic film No. 471 3/8 wide as manufactured by 3M Co., Minnesota. 6. Epoxy 221B365-II Link and RA2487-2 plain ball together as shown with epoxy lite No. 8751 or equivalent. 7. Torque check valve to a value of 70 ± 5 in-lbs.		



63-935

Figure 3-28. Manifold Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-28	221D317-1	MANIFOLD ASSEMBLY, (See figure 3-27 for NHA)	REF	
-1	AN932-S1	. PLUG, Countersink hex hd. pipe (Note 1)	1	
-2	3104AS100-1	. CHECK VALVE (Note 3)	1	
-3	MS9068-012	. O-RING	1	
-4	221B320-11	. NIPPLE, Union manifold	1	
-5	MS9068-11	. O-RING	1	
-6	EW63004	. RELIEF VALVE (30941)	1	
	P103-673	. RELIEF VALVE (91816)	1	
	Z02RV04-4	. RELIEF VALVE (91816) (Note 3)	1	
-7	MS9068-012	. O-RING	1	
-8	MS21209F1-15	. HELICAL COIL INSERT (Note 2)	2	
-9	221D319-11	. MANIFOLD BODY	1	
Notes: 1. Install using MIL-T-27730 Teflon Tape. 2. Install Heli-coil insert per MS33537 or equivalent. 3. Torque to a value of 70 ± 5 in-lb.				

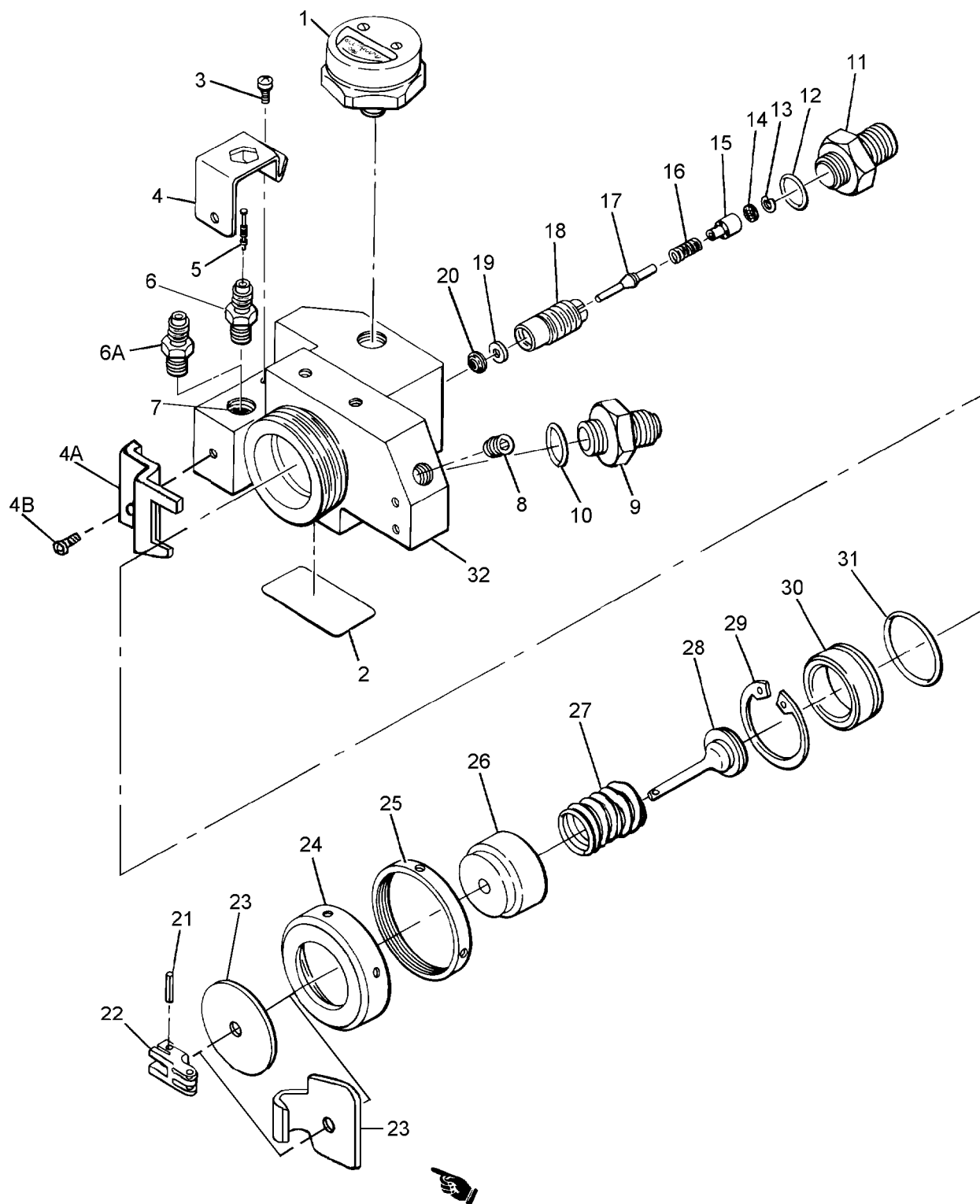
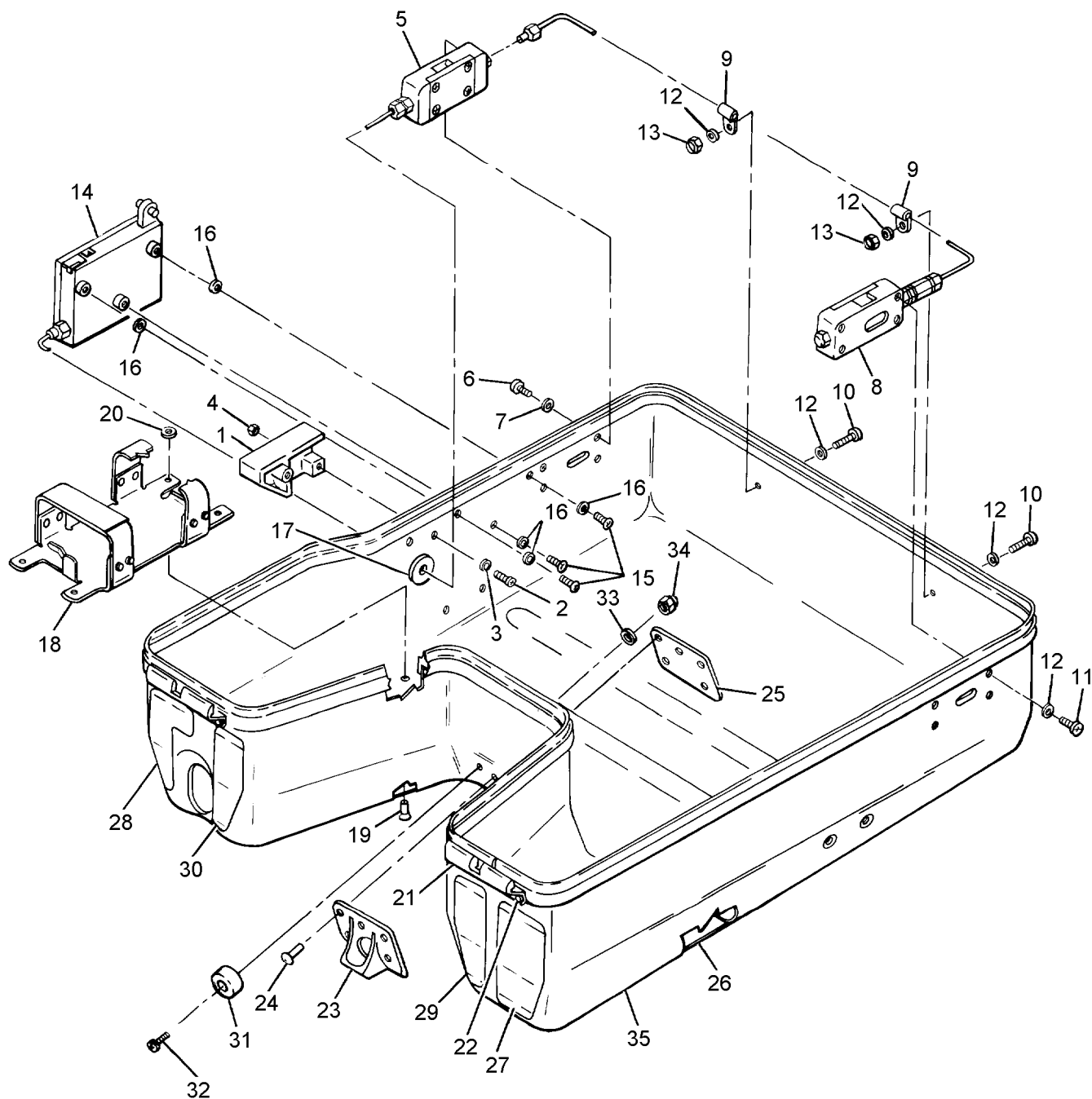


Figure 3-29. Reducer Assembly

003029

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
3-29	216D800-3	REDUCER ASSEMBLY (See Figure 3-27 for NHA)	REF	A
	216D800-7	REDUCER ASSEMBLY (See Figure 3-27 for NHA) (Note 4)	REF	B
-1	MIL-G-7601A	. OXYGEN GAGE TYPE 1-2 (Note 1)	1	
-2	216B826-13	. PLATE IDENTIFICATION	1	A
	216B826-17	. PLATE IDENTIFICATION	1	B
-3	MS35206-225	. SCREW, Mach pan hd.	2	
-4	221C870-11	. RETAINER	1	
-4A	221B343-11	. BRACKET, Anti-rotation	1	
-4B	MS51957-26	. SCREW	1	
	221B380-1	. VALVE ASSEMBLY, Filler (Note 1)	1	
-5	EW63001	. VALVE CORE (30941)	1	
-6	102C383-11	. BODY VALVE	1	
-6A	9120097-27	. FILL VALVE (Note 5)	1	
-7	204B419-11	. FILTER	1	
-8	AN932-S1	. PLUG, Countersink Hex Hd. pipe (Note 1)	1	
-9	MS21900-J4	. ADAPTER	1	
-10	MS9068-012	. O-RING	1	
-11	221B840-11	. NIPPLE UNION	1	
-12	MS9068-012	. O-RING	1	
-13	MS16625-4025	. RING, Retaining	1	
-14	102B819-11	. FILTER (Note 5)	1	
-15	102B818-11	. GUIDE, Poppet	1	
-16	102B814-11	. SPRING, Poppet	1	
-17	102B817-11	. POPPET	1	
-18	102C815-11	. RETAINER (Note 2)	1	
-19	102B828-11	. STOP, Back up ring	1	
-20	102B816-11	. SEAT	1	
-21	MS171435	. SPRING PIN	1	
-22	221C303-11	. TOGGLE	1	
-23	233B823-11	. SPACER	1	A
	253D341-11	. SPACER, Anti-cocking	1	B
-24	233C829-11	. CAP, Adjust	1	
-25	233C830-11	. LOCK RING	1	
-26	233C820-11	. GUIDE, Piston	1	
-27	233B831-11	. SPRING	1	
-28	102C824-11	. PLUNGER	1	
-29	N5000-102H	. RETAINING RING (79136)	1	
-30	102C821-11	. PISTON	1	
-31	MS28775-117	. O-RING	1	
-32	216D811-11	. REDUCER BODY	1	

- Notes:
1. To assemble pipe threaded parts, use Teflon tape 1 1/2-in. wide conforming to MIL-T-27730, coating to be applied according to instructions specified in MIL-T-27730.
 2. Torque retainer to 32 to 35 inch-pounds after assembly.
 3. Install coarse mesh near side.
 4. Reducer assembly part number 216D800-7 incorporates an anti-rotation bracket.
 5. Fill Valve can be used as an alternate to replace Filler Valve Assembly P/N 221B380-1 or Valve Core P/N EW63001 and Body Valve P/N 102C383-11.



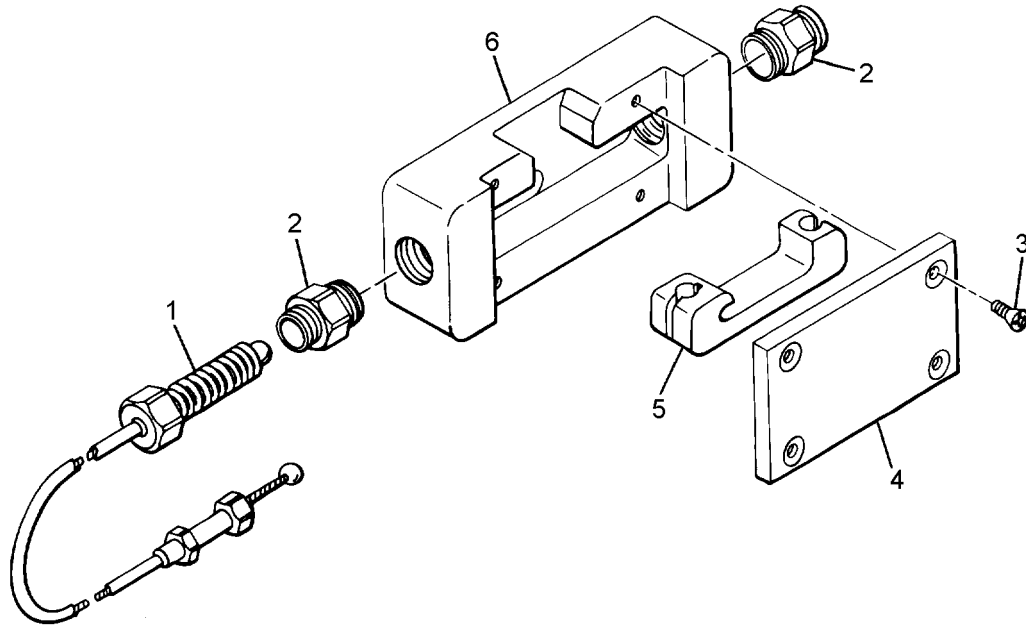
63-937

Figure 3-30. Lower Container Assembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
3-30	221J400-1	CONTAINER ASSEMBLY, Lower (See figure 3-26 for NHA)	REF	
-1	234C450-11	. HANDLE PROTECTOR (ATTACHING PARTS)	1	
-2	MS35206-232	. SCREW, Machine pan hd.	2	
-3	AN960-6L	. WASHER, Flat	2	
-4	MS21042-06	. NUT, Self locking reduced hexagon hd. ---*---	2	
-5	221C540-1	. LOCK ASSEMBLY, RH (See figure 3-31 for BKDN) (ATTACHING PARTS)	1	
-6	MS35207-262	. SCREW, Machined pan hd.	4	
-7	AN960PD10L	. WASHER, Flat ---*---	4	
-8	221C520-1	. LOCK ASSEMBLY, LH (See figure 3-32 for BKDN) (ATTACHING PARTS)	1	
-9	MS25281-F2	. CLAMP, Loop plastic	2	
-10	MS35207-263	. SCREW, Machine pan hd.	2	
-11	MS35207-262	. SCREW, Machine pan hd.	4	
-12	AN960PD10L	. WASHER, Flat	8	
-13	22K1-02	. NUT ---*---	2	
-14	221D580-1	. LID LOCK RELEASE ASSEMBLY (See figure 3-33 for BKDN) (ATTACHING PARTS)	1	
-15	MS35207-262	. SCREW, Machine pan hd.	3	
-16	AN960PD10L	. WASHER, Flat ---*---	5	
-17	MS35489-34	. GROMMET, Rubber	1	
-18	102D450-3	. RADIO BRACKET ASSEMBLY (ATTACHING PARTS)	1	
-19	MS20426A4-6	. RIVET, Solid countersink (0.125 dia. x 0.375 lg.)	4	
-20	AN960PD6	. WASHER, Flat ---*---	4	
-21	102D125-13	. HINGE (ATTACHING PARTS)	2	
-22	MS20470AD3-8	. RIVET, Solid hd. ---*---	8	
-23	221C410-11	. FITTING (ATTACHING PARTS)	1	
-24	MS20470AD4-7	. RIVET, Solid universal hd. ---*---	5	
-25	221C423-11	. BACK PLATE	1	
-26	221D460-11	. PAD	1	
-27	221D230-25	. PILE (Note 1)	1	
-28	221D230-27	. PILE (Note 1)	1	

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
3-30-29	221D230-29	. PILE (Note 1)	1	
-30	221D230-30	. PILE (Note 1)	1	
-31	221B424-11	. BUMPER'S	2	
		(ATTACHING PARTS)		
-32	MS35206-232	. SCREW, Machine-pan-head	2	
-33	AN960PD6	. WASHER	2	
-34	22K2-62	. NUT, Hex	2	
		---*---		
-35	221J422-1	. CONTAINER, Machined	1	
	Notes: 1. Bond to lower container using #12 super-bonder or equivalent. Wipe area clean with Heptane.			



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Figure 3-31. Lock Assembly RH

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-31	221C540-1	LOCK ASSEMBLY, RH (See figure 3-30 for NHA)	REF	
-1	221D560-1	. CABLE ASSEMBLY, Right	1	
-2	102C527-13	. NIPPLE	2	
-3	MS24693-S3	. SCREW, Flathead (No. 4-40 x 0.312 lg.) (Note 1)	4	
-4	102C523-11	. COVER	1	
-5	221C521-11	. SLIDE	1	
-6	102C519-1	. HOUSING ASSEMBLY	1	
		Notes: 1. Apply VC-3 (Thread Locking) Viscous Coating to threads (or equivalent).		

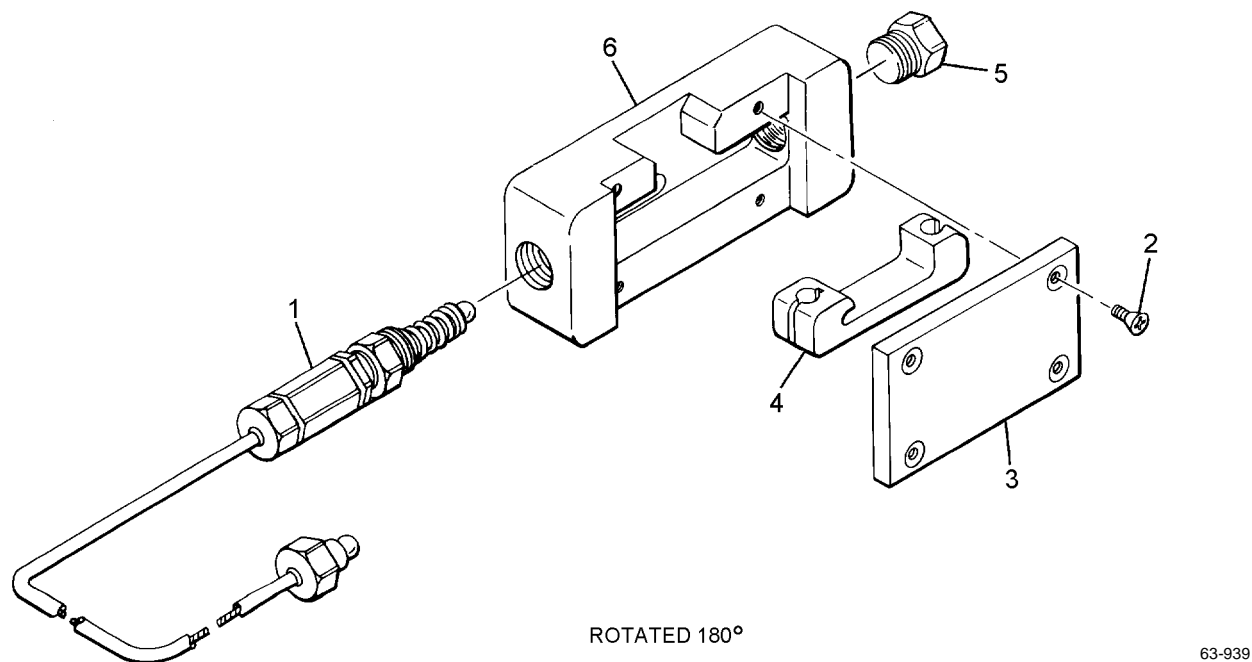
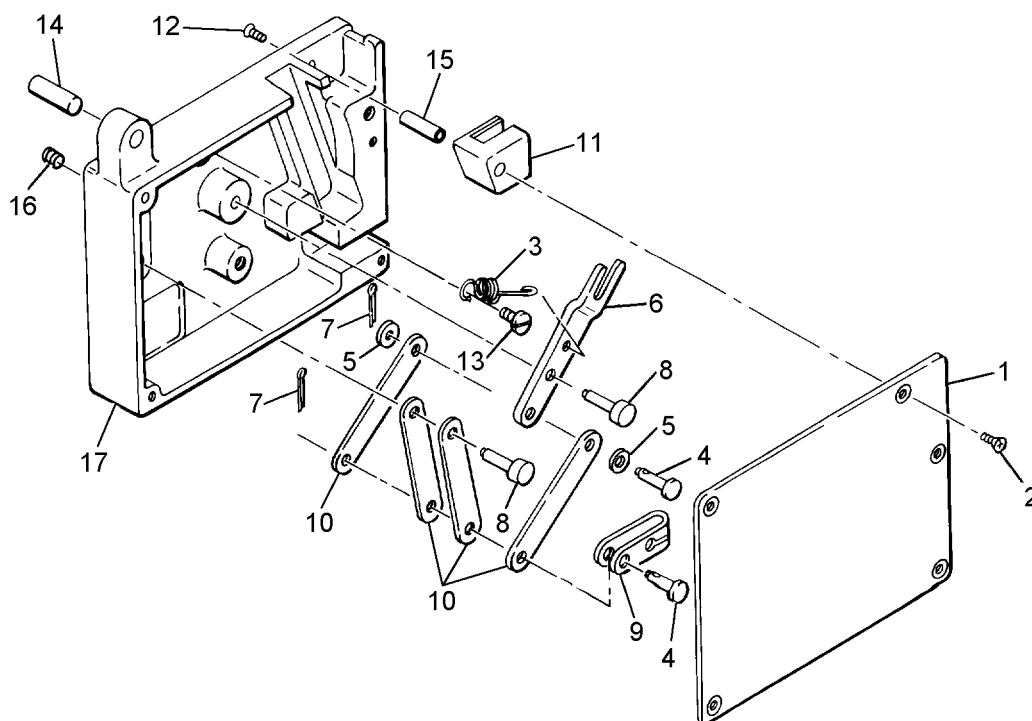


Figure 3-32. Lock Assembly LH

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-32	221C520-1	LOCK ASSEMBLY, LH (See figure 3-30 for NHA)	REF	
-1	221D570-1	. CABLE ASSEMBLY, Rear	1	
-2	MS24693-S3	. SCREW, Flathead (No. 4-40 x 0.312 lg.) (Note 1)	4	
-3	102C523-11	. COVER	1	
-4	221C521-11	. SLIDE	1	
-5	102C526-11	. PLUG	1	
-6	102C519-1	. HOUSING ASSEMBLY	1	
Notes: 1. Apply VC-3 (Thread Locking) Viscous Coating to threads (or equivalent).				



63-940

Figure 3-33. Lid Lock Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
3-33	221D580-1	LID LOCK RELEASE ASSEMBLY	REF	
		(See figure 3-30 for NHA)		
-1	102C597-13	. COVER	1	
		(ATTACHING PARTS)		
-2	MS24693-S3	. SCREW, Flathead (4-40)	5	
		---*---		
-3	102C584-11	. SPRING, Toggle	1	
-4	MS9462-05	. PIN, Clevis	2	
-5	AN960-C4	. WASHER, Flat	2	
-6	102C583-13	. LEVER, Actuating	1	
-7	MS24665-1011	. PIN, Cotter (0.312 lg.)	2	
-8	102C596-11	. PIN, Pivot (0.312 dia. x 0.60 lg.)	2	
-9	221C581-11	. CLEVIS	1	
-10	102C582-11	. LINK TOGGLE	4	
-11	102C589-11	. GUIDE	1	
	102C588-1	. HOUSING INSERT ASSEMBLY	1	
-12	MS24693-S3	. . SCREW, Flathead (4-40) (Note 1)	1	
-13	COML	. . SCREW, (No. 4-40 x 0.312 lg.)	1	
-14	MS9390-421	. . PIN, Straight (Dia. .252 X 0.50 lg.)	1	
-15	102C594-11	. . STANDOFF	1	
-16	MS21209F1-15	. . HELICAL COIL INSERT	3	
		(For no. 10 x 32 x 0.285 lg.)		
-17	102D587-11	. . HOUSING, Machined lid lock release	1	
		Notes: 1. Loctite sealant Grade A or equivalent.		

NUMERICAL INDEX

Part Number	Figure and Index Number	SM&R Code	Part Number	Figure and Index Number	SM&R Code
AN932-S1	3-28-1	PAGZZ	MS21919DG3	3-27-30	PAGZZ
	3-29-8		MS21919DG4	3-27-36	PAGZZ
AN932-S2	3-27-41	PAGZZ		3-27-83	
AN960-C4	3-27-14	XAGZZ	MS24665-1011	3-33-7	XAGZZ
	3-33-5		MS24665-88	3-27-68	PAGZZ
AN960-6L	3-30-3		MS24693-S3	3-31-3	PAGZZ
AN960PD10	3-27-57	PAGZZ		3-32-2	
AN960PD10L	3-27-28	PAGZZ		3-33-2	
	3-27-32			3-33-12	
	3-27-38		MS25281-F2	3-27-69	PAGZZ
	3-27-47			3-27-82	
	3-27-58			3-30-9	
	3-27-64		MS28775-117	3-29-31	PAGZZ
	3-27-73		MS35206-215	3-27-100	PAGZZ
	3-27-85		MS35206-225	3-29-3	PAGZZ
	3-27-103		MS35206-232	3-30-2	PAGZZ
	3-30-7			3-30-32	
	3-30-12		MS35206-244	3-27-70	PAGZZ
	3-30-16		MS35207-262	3-26-9	PAGZZ
AN960PD6	3-30-20	PAGZZ		3-27-27	
	3-30-33			3-27-54	
AN960PD8L	3-27-72	PAGZZ		3-30-6	
COML	3-27-13			3-30-11	
	3-27-94			3-30-15	
	3-33-13		MS35207-263	3-27-31	PAGZZ
EW54002	3-27-81			3-27-37	
EW54006	3-27-79			3-27-44	
EW60001	3-27-34	PAGZZ		3-27-63	
EW63001	3-29-5	PAGZZ		3-27-71	
EW63004	3-28-6			3-27-84	
GA506D1	3-26-11	PAGZZ		3-30-10	
LC026B0-6	3-27-96		MS35207-264	3-27-55	PAGZZ
MIL-G-7601A	3-29-1	PAGZZ	MS35207-265	3-27-45	PAGZZ
MS15795-802	3-27-10	PAZZZ	MS35207-266	3-27-46	PAGZZ
MS16535-89	3-27-11	PAZZZ		3-27-56	
MS16625-4025	3-29-13	PAGZZ	MS35207-267	3-27-102	PAGZZ
MS171435	3-29-21	PAGZZ	MS35489-34	3-30-17	PAGZZ
MS20426A4-6	3-30-19	PAGZZ	MS35489-42	3-27-98	PAGZZ
MS20470AD3-5	3-27-110	PAGZZ	MS51957-26	3-29-4B	PAGZZ
MS20470AD3-8	3-27-108	PAGZZ	MS51960-64	3-26-3	PAGZZ
	3-30-22		MS9068-011	3-27-52	PAGZZ
MS20470AD4-7	3-30-24	PAGZZ		3-27-106	
MS20470AD4-8	3-27-20	PAGZZ		3-28-5	
MS20822-3C	3-27-40	PAGZZ	MS9068-012	3-28-3	PAGZZ
MS21042-06	3-30-4	PAGZZ		3-28-7	
MS21209F1-15	3-28-8	PAGZZ		3-29-10	
	3-33-16			3-29-12	
MS21900-J3	3-27-105	PAGZZ	MS9390-421	3-33-14	XAGZZ
MS21900-J4	3-29-9	PAGZZ			

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MS9462-05	3-33-4	PAZZZ
NAS1716C40T	3-27-43	PAGZZ
NAS397-10	3-25-6	
NO. 850	3-26-22	
NO. 8751	3-27-95	
N5000-102H	3-29-29	PAGZZ
P103-673	3-28-6	PAGZZ
RA2487-2	3-27-90	PAZZZ
SS51338	3-27-8	XBGZZ
VSF 1015S3	3-27-34	PAGZZ
Z02RV04-4	3-28-6	
015-11365-1	3-25-1	PAOZZ
102B814-11	3-29-16	PAGZZ
102B816-11	3-29-20	PAGZZ
102B817-11	3-29-17	PAGZZ
102B818-11	3-29-15	PAGZZ
102B819-11	3-29-14	PAGZZ
102B828-11	3-29-19	PAGZZ
102C101-11	3-26-4	PAGZZ
102C101-13	3-26-10	PAGZZ
102C281-11	3-27-109	MGGZZ
102C381-11	3-27-12	XAGZZ
102C383-11	3-29-6	PAGZZ
102C519-1	3-31-6	PAGZZ
	3-32-6	
102C523-11	3-31-4	PAGZZ
	3-32-3	
102C526-11	3-32-5	PAGZZ
102C527-13	3-31-2	PAGZZ
102C582-11	3-33-10	XAGZZ
102C583-13	3-33-6	XAGZZ
102C584-11	3-33-3	PAZZZ
102C588-1	3-33	XAGZZ
102C589-11	3-33-11	XAGZZ
102C594-11	3-33-15	
102C596-11	3-33-8	XAGZZ
102C597-13	3-33-1	
102C815-11	3-29-18	XBGZZ
102C821-11	3-29-30	XBGZZ
102C824-11	3-29-28	XBGZZ
102D125-13	3-30-21	XBGZZ
102D125-5	3-27-107	XBGZZ
102D450-3	3-30-18	PAGZZ
102D499-17	3-26-20	MDGZZ
102D499-23	3-26-21	MDGZZ
102D550-3	3-26-1	PAGZZ
102D587-11	3-33-17	
102D620-5	3-26-2	PAGZZ

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128ES10060-1	3-25	
128ES10060-7	3-25	
128ES10060-9	3-25-3	
128ES10060-25	3-25	
128ES10060-27	3-25-4	
128ES10065-13	3-25	
128ES10070-1	3-25-2	
128ES10070-5	3-25-2	
128SCES115-13	3-25-5	
184C100-1	3-26-11	PAGZZ
128SCES119-1	3-25-7	PAOGD
204B201-11	3-27-111	PAGZZ
204B419-11	3-29-7	PAGZZ
216B826-13	3-29-2	MDGZZ
216B826-17	3-29-2	MDGZZ
216D800-3	3-27-101	PAGGG
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216D800-7	3-27-101	PAGGG
	3-29	
216D811-11	3-29-32	XAGZZ
22K1-02	3-26-5	PAGZZ
	3-26-8	
	3-30-13	
22K1-82	3-27-74	PAGZZ
22K2-02	3-27-33	PAOZZ
	3-27-39	
	3-27-48	
	3-27-59	
	3-27-65	
	3-27-75	
	3-27-86	
22K2-048	3-27-25	PAGZZ
22K2-62	3-30-34	PAGZZ
220B116-17	3-27-80	XAGZZ
220C102-1	3-27-76	XAGZZ
221B210-11	3-26-6	PAGZZ
221B281-11	3-27-9	XAGZZ
221B282-11	3-27-16	XAGZZ
221B320-11	3-28-4	PAGZZ
221B321-11	3-27-60	MGGZZ
221B321-13	3-27-104	MGGZZ
221B322-11	3-27-49	MGGZZ
221B322-13	3-27-50	MGGZZ
221B343-11	3-29-4A	
221B363-11	3-27-91	XAGZZ
221B363-13	3-27-77	XAGZZ
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221B365-11	3-27-93	XAGZZ

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221B380-1	3-30	AGGGG	221D230-23	3-27-7	MGGZZ
221B382-11	3-27-15	XAGZZ	221D230-25	3-30-27	MGGZZ
221B424-11	3-30-31		221D230-27	3-30-28	MGGZZ
221B646-11	3-27-22	XBGZZ	221D230-29	3-30-29	MGGZZ
221B646-13	3-27-23	XBGZZ	221D230-30	3-30-30	MGGZZ
221B648-11	3-27-24	XBGZZ	221D317-1	3-27-53	AGGGG
221B691-11	3-26-7	PAGZZ		3-28	
221B710-11	3-27-18	MGGZZ	221D319-11	3-28-9	PAGZZ
221B711-11	3-27-19	MGGZZ	221D345-1	3-28	PAGZZ
221B840-11	3-29-11	PAGZZ	221D349-1	3-27-78	XAGZZ
221C241-11	3-27-66	MGGZZ	221D354-1	3-27-29	PAGZZ
221C242-11	3-27-67	MGGZZ	221D355-1	3-27-35	PAGZZ
221C280-1	3-28	PAGZZ	221D390-1	3-28	PAGZZ
221C280-11	3-27-17		221D460-11	3-30-26	MGGZZ
221C303-11	3-29-22	PAGZZ	221D560-1	3-31-1	PAGZZ
221C361-1	3-27		221D570-1	3-32-1	PAGZZ
221C362-11	3-27-97	XAGZZ	221D580-1	3-30-14	PAGZZ
221C395-1	3-27-87	XAGZZ		3-33	
221C396-1	3-27-88	XAGZZ	221D610-1	3-26-16	MGGZZ
221C397-11	3-27-89	XAGZZ	221D615-1	3-26-17	PAGZZ
221C410-11	3-30-23	XBGZZ	221D680-1	3-26	AGGOG
221C423-11	3-30-25	XBGZZ	221D680-2	3-26	AGGGG
221C520-1	3-30-8	AGGGG	221D690-1	3-26-12	PAOZZ
	3-32		221D690-2	3-26-13	PAOZZ
221C521-11	3-31-5	PAGZZ	221J100-1	3-25-7	PAOGD
	3-32-4			3-25	
221C540-1	3-30-5	AGGGG	221J200-1	3-26-15	PAGGG
	3-31			3-27	
221C581-11	3-33-9	XAGZZ	221J221-1	3-27-112	
221C640-11	3-27-61	XAGZZ	221J222-1	3-28	PAGZZ
221C642-11	3-27-62	XBGZZ	221J400-1	3-26-23	PAGGG
221C645-11	3-27-21	XBGZZ		3-30	
221C860-11	3-27-99	MGGZZ	221J422-1	3-30-35	PAGGG
221C870-11	3-29-4	MGGZZ	230C535-13	3-27-26	XBGZZ
221C913-11	3-26-19	MDGZZ	233B823-11	3-29-23	
221C914-11	3-26-14	MDGZZ	233B831-11	3-29-27	PAGZZ
221C914-13	3-26-18	MDGZZ	233C820-11	3-29-26	XBGZZ
221D110-11	3-27-113		233C829-11	3-29-24	XBGZZ
221D110-15	3-27-114		233C830-11	3-29-25	XBGZZ
221D220-1	3-27		234C450-11	3-30-1	PAGZZ
221D230-11	3-27-1	MGGZZ	235D200-1	3-27-42	PAGZZ
221D230-13	3-27-2	MGGZZ	253D341-11	3-29-23	
221D230-15	3-27-3	MGGZZ	2624A-4TT	3-27-51	PAGZZ
221D230-17	3-27-4	MGGZZ	3104AS100-1	3-28-2	PAGZZ
221D230-19	3-27-5	MGGZZ	3178AS100-1	3-28-6	PAGZZ
221D230-21	3-27-6	MGGZZ	9120097-27	3-29-6A	PAGZZ

CHAPTER 4

SKU-3/A SEAT SURVIVAL KIT

Section 4-1. Description

4-1. GENERAL.

4-2. The SKU-3/A Seat Survival Kit Assembly is designed for use with the SJU-5/A and SJU-6/A ejection seats. The survival kit serves as a seat for the aircrewmember and a container for the emergency oxygen system, liferaft, and survival items (figures 4-1 and 4-2). The SKU-3/A Seat Survival Kit, less emergency radio beacon actuation lanyard quick-release fittings, life-raft, and survival items, is manufactured by East/West Industries (CAGE 30941) P/N 253J100-1. The entire assembly is supplied by McDonnell Aircraft Company (CAGE 76301) and is identified by P/N 74A800103-1001.

4-3. CONFIGURATION.

4-4. The survival kit is a rigid-type container made of molded fiberglass and contains equipment required for aircrewmember survival after ejection. The survival kit fits into the ejection seat bucket and provides support and a routing for oxygen and communications for the aircrewmember. If an ejection or aircraft oxygen supply failure occurs, the survival kit contains a 50 cubic inch, 1800 psi, emergency oxygen cylinder that provides an emergency supply of oxygen for approximately 10 minutes. The emergency oxygen pressure gage is visible through an opening in the left thigh portion of the snap-on cushion. The lid assembly contains the emergency oxygen equipment. The lower container houses the liferaft, survival equipment, and emergency radio beacon. The two halves of the survival kit are held together by a lock and latch mechanism. The release handle allows the aircrewmember access to the liferaft and survival equipment after ejection.

4-5. Two adjustable harness assemblies (lapbelts) are attached to the survival kit lid. Each harness has a quick-release fitting to attach the survival kit to the

aircrewmember torso harness and two fittings to install the survival kit in the ejection seat bucket. The negative-g strap and fitting attach the survival kit to the ejection seat. The other end of the strap attaches to the torso harness.

4-6. SUBASSEMBLIES. The major subassemblies of the SKU-3/A are:

1. Emergency Oxygen System
2. Upper and Lower Container
3. Handle Release Mechanism
4. Dropline Assembly
5. Cushions
6. Survival Equipment Container
7. Hose Assembly
8. Harness Assembly

4-7. REFERENCE NUMBERS, ITEMS, AND SUPPLY DATA.

4-8. Figures 4-19 through 4-27 contain information on each assembly, subassembly, and component part of the SKU-3/A. The figure and index number, reference or part number, description, and units per assembly are provided.

4-9. APPLICATION.

4-10. The SKU-3/A is a part of the survival equipment used by aircrewmembers aboard the F/A-18A, F/A-18B, F/A-18C BUNO 163427 thru 164067 and F/A-18D BUNO 163434 thru 164068 aircraft.

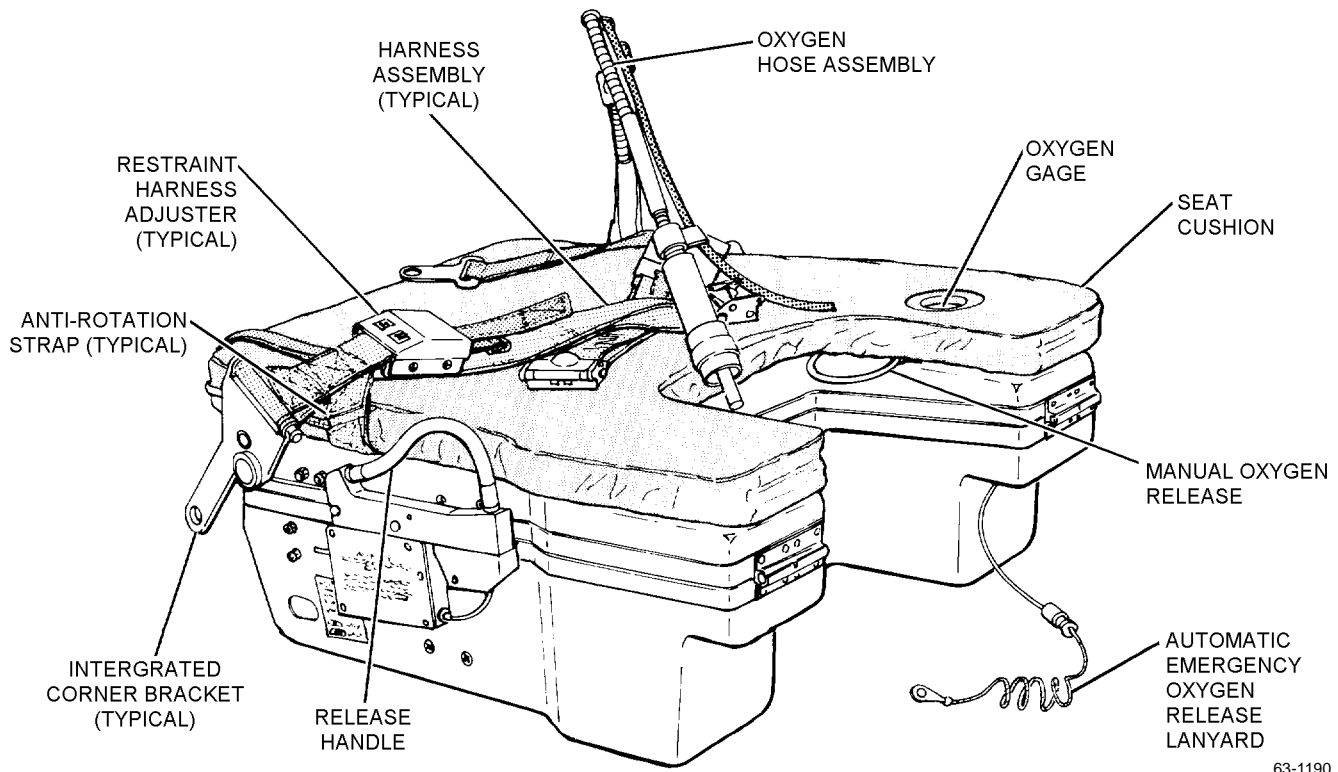


Figure 4-1. SKU-3/A (Closed)

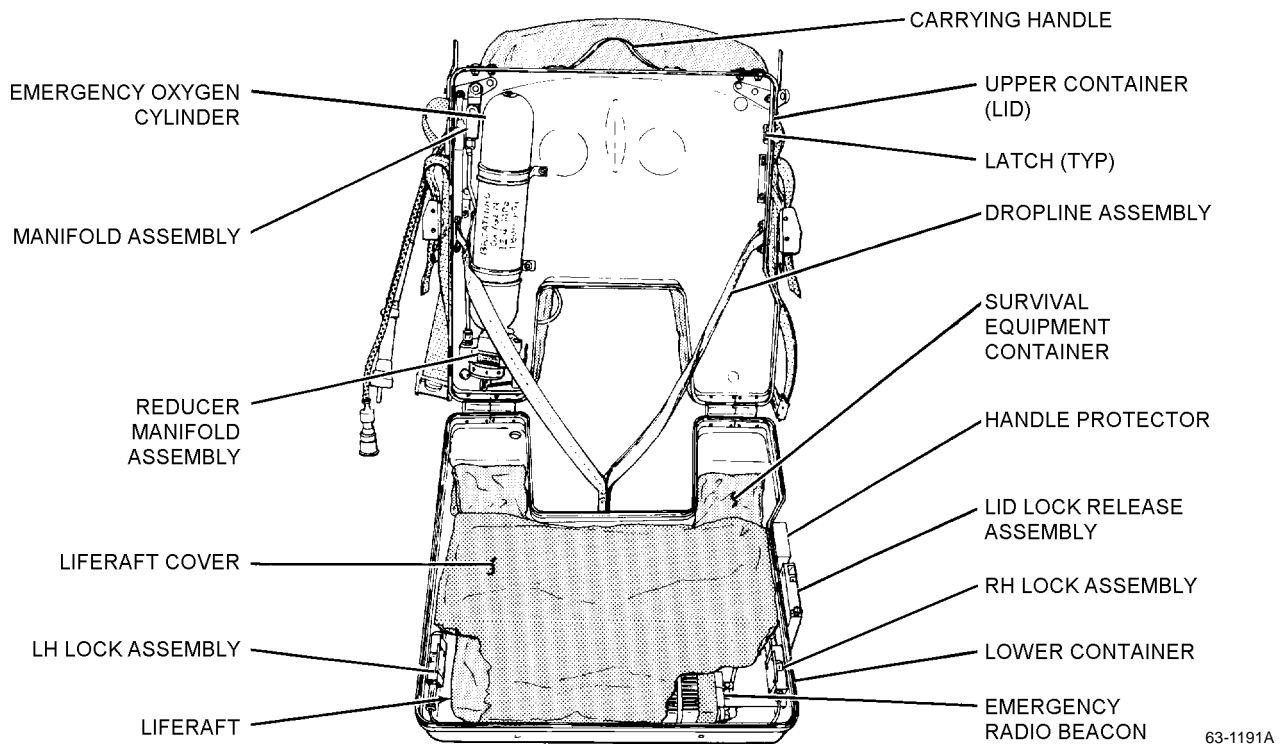


Figure 4-2. SKU-3/A (Open)

4-11. FUNCTION.

4-12. When the aircrewmember ejects from the aircraft, the following events occur:

1. As the ejection seat leaves the aircraft, the personnel parachute sequencing is actuated and the automatic emergency oxygen lanyard actuates the oxygen release assembly providing oxygen to the aircrewmember (figure 4-3).

NOTE

If automatic actuation of the emergency system fails, the system may be actuated by pulling the manual oxygen release handle (green ring) located inboard of the aircrewmember's left knee.

2. Approximately 0.5 second after the drogue gun sear is pulled, the drogue gun fires and deploys the drogue parachutes.

3. If the altitude and/or g conditions are correct after a 1.5-second delay, the time release mechanism fires, releasing the following:

a. Scissor shackle

b. Parachute mechanical lock

c. Drogue shackle

d. Inertia reel straps

e. Lapbelts with survival kit

f. Negative-g strap

g. Leg restraints

4. When the drogue parachutes deploy the personnel parachute, the aircrewmember separates from the seat. The radio beacon actuation lanyard attached to the seat automatically turns on the radio beacon in the survival kit.

5. During descent when survival kit deployment is desired, the aircrewmember pulls the yellow release handle on the right side of the survival kit. The lower container falls away, extracting the dropline from its boots and the liferaft. When the dropline becomes taut, it pulls a lanyard attached to the CO₂ inflation valve which inflates the liferaft.

6. After entering the water, the aircrewmember boards the liferaft and retrieves the lower container and U-shaped survival equipment container which is attached to the dropline by a length of nylon cord.

Section 4-2. Modifications**4-13. GENERAL.**

4-14. There are no modifications to the SKU-3/A required/authorized at this time.

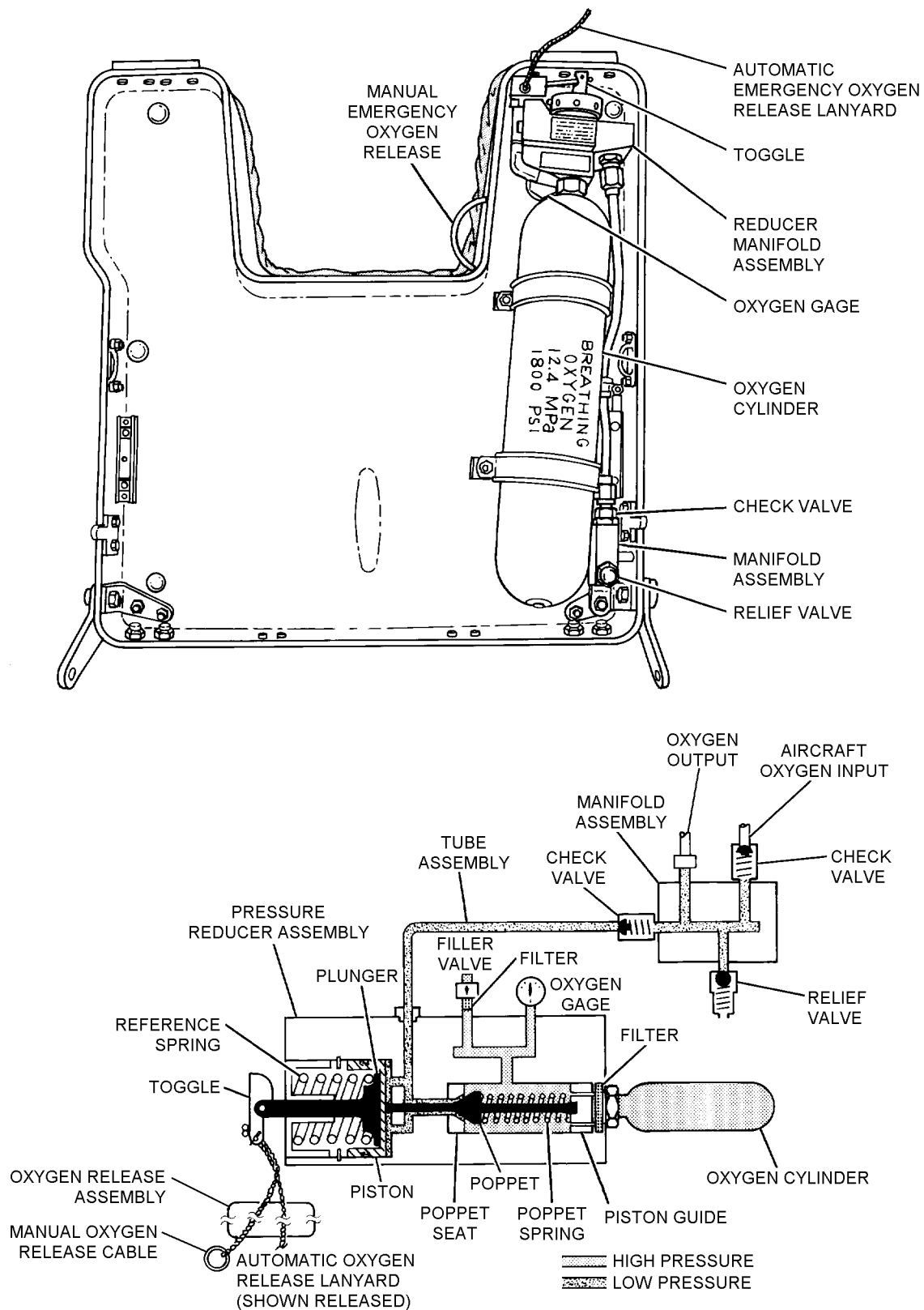


Figure 4-3. SKU-3/A Oxygen System Schematic

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Section 4-3. Rigging and Packing

4-15. GENERAL.

4-16. Unless operational requirements demand otherwise, rigging and packing of the SKU-3/A shall be accomplished at the Intermediate Level of maintenance by qualified personnel every 448 days.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by Quality Assurance (QA).

4-17. RIGGING AND PACKING PROCEDURES.

4-18. Rigging and packing of the SKU-3/A shall be accomplished in eight separate operations as follows:

1. Preliminary Procedures
2. Radio Beacon Rigging and Installation
3. Survival Equipment Binding
4. Survival Equipment Packing
5. Stowing Dropline
6. Liferaft Preparation, Folding, Rigging, and Packing
7. Closing Container

4-19. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-3/A.

1. Ensure SKU-3/A and components have been inspected in accordance with [Section 4-5](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.

4. Remove liferaft cover. Inspect liferaft cover for damaged fabric and loose, broken, or frayed stitching.

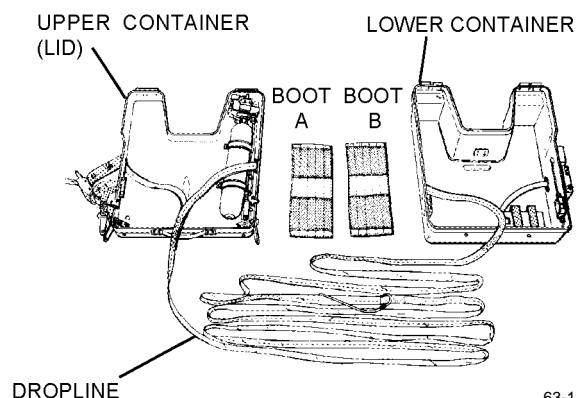
WARNING

CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

5. Disconnect CO₂ cylinder from liferaft as follows:
 - a. Carefully remove liferaft from container.
 - b. Disconnect actuation line from CO₂ cylinder.
 - c. Disconnect CO₂ cylinder from liferaft.
 - d. Remove large loop of drop line from CO₂ cylinders neck.
 - e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.
6. Ensure liferaft and CO₂ cylinder have been inspected in accordance with NAVAIR 13-1-6.1-1.
7. Remove dropline from boots and align kit components on a clean flat surface as shown.



63-1193

Step 7 - Para 4-19

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 26 feet, 4 inches \pm 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of \pm 12 inches is acceptable for an older dropline assembly.

8. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 26 feet, 4 inches \pm 12 inches.

9. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.

10. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.

11. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of attachment, corrosion, damage, wear, and ease of operation.

4-20. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
1	Beacon Set, Radio AN/URT-33A	MIL-B-38401A NIIN 00-160-2136
1	Actuator Indicator Assembly	CL204D3-11 (CAGE 80206) NIIN 00-127-5597
1	Pin, Cotter, Hairpin	LHCOTC (CAGE 96652) NIIN 00-956-5635
1	Actuating Lanyard	MBEU 66999-3 (CAGE U1604)
2	Rubber Band, Type I	MIL-R-1832 (CAGE 81349) NIIN 00-568-0323

Support Equipment Required

Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 4-70

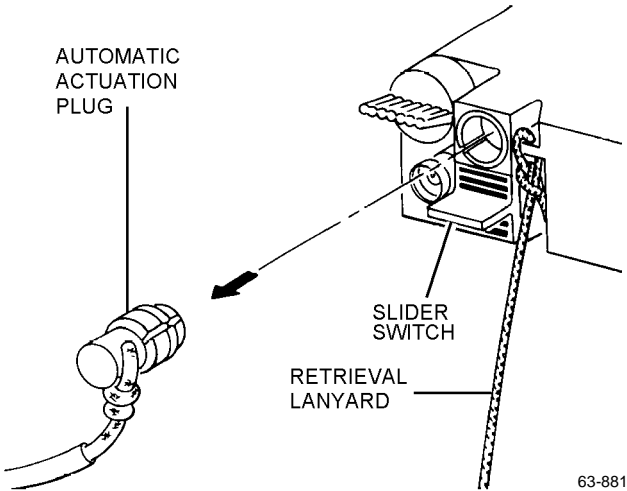
NOTE

Ensure that slider switch on radio beacon is OFF. Slider switch is in OFF position when word ON is not visible on radio beacon housing.

Determine if beacon has been modified in accordance with steps 1 through 3 before proceeding to step 4.

Retain automatic actuation plug with lanyard and metal insert in shop for possible future use.

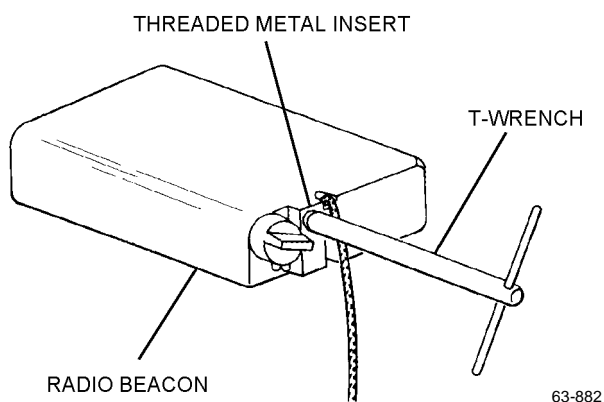
1. Remove automatic actuation plug and lanyard from radio beacon assembly.



63-881

Step 1 - Para 4-20

2. Remove threaded metal insert from beacon using T-wrench. To fabricate T-wrench, refer to [paragraph 4-70](#).



Step 2 - Para 4-20

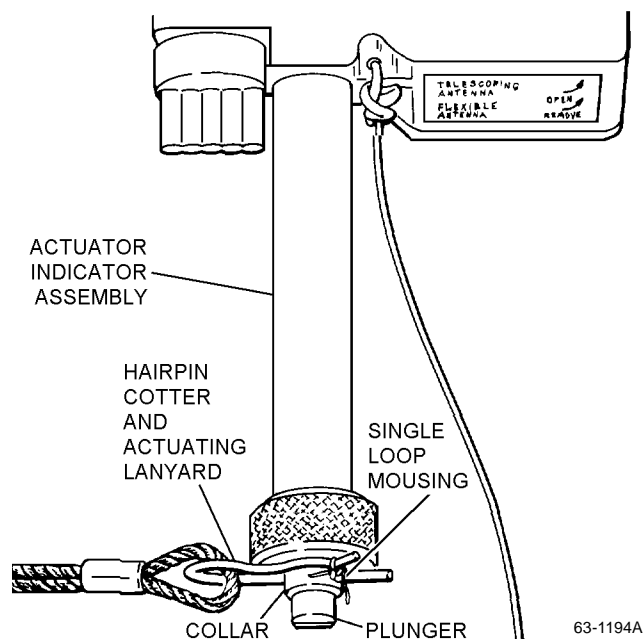
3. Install actuator indicator assembly handtight into radio beacon position from which metal insert was removed.

4. Depress indicator plunger, align holes in plunger and collar, and insert hairpin cotter attached to actuating lanyard.

5. Ensure hairpin cotter and collar are free to rotate 360° without binding. If hairpin cotter and collar are

free to rotate, proceed to [step 6](#). If hairpin cotter and collar do not rotate freely, refer to NAVAIR 16-30URT33-1.

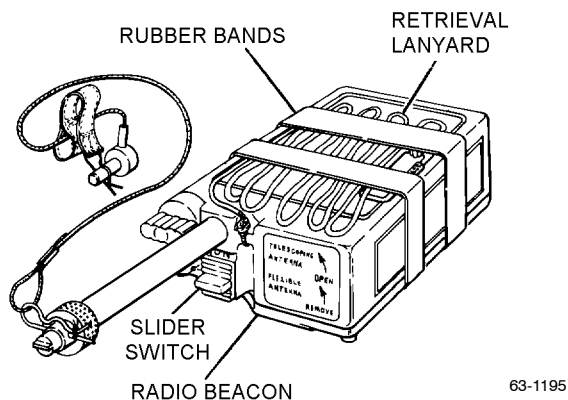
6. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing, using size E nylon thread. Secure mousing loop with square knot. Cut off excess approximately 1/8 inch from knot.



Step 6 - Para 4-20

NAVAIR 13-1-6.3-2

7. Accordion-fold retrieval lanyard on top of radio beacon and secure with rubber bands. Ensure retrieval lanyard is attached at both ends with a bowline knot, with an overhand knot tied at the tag end.



Step 7 - Para 4-20

8. Connect flexible antenna to radio beacon receptacle by pushing bayonet type fitting in and rotating to the right (clockwise).

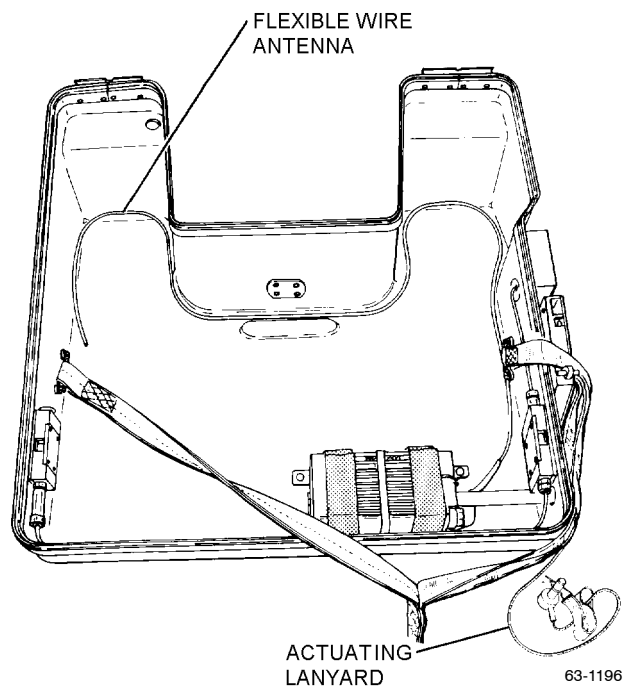
NOTE

Ensure that radio beacon is clear of cords and lanyards.

To prevent accidental transmission of inaudible emergency distress signal, ensure indicator plunger is secure in depressed position before slider ON/OFF switch is placed in ON (armed) position.

9. Place ON/OFF slider switch in the ON (armed) position and install beacon in bracket in lower container of kit. Route opposite end of installed beacon automatic actuation lanyard through opening in container through which actuator must extend. Ensure slider switch is secure in ON position under bracket finger bar, press beacon into position, then secure beacon with hook and pile tape fasteners.

10. Route flexible wire antenna forward around periphery of lower container.



Step 10 - Para 4-20

4-21. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 before binding. To bind survival items, proceed as follows (table 4-1).

NOTE

To prevent loss of survival items, tie them individually and then tie them to a 140-inch length of nylon cord. Nylon cord of the prescribed length required for this procedure shall be seared at both ends to prevent fraying. Refer to table 4-2. All cord used shall be nylon (MIL-C-5040, Type I).

Table 4-1. Survival Kit Items (Note 1)

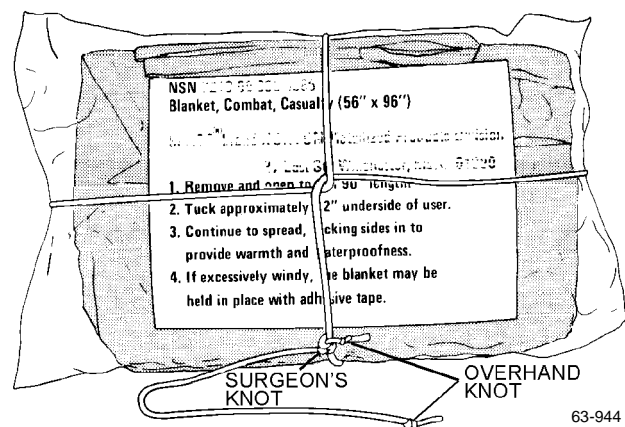
Item Name	Quantity	Reference Number
Cord, (Nylon), Fibrous Type I	50 ft	NAVAIR 13-1-6.5
Signal, (Flare), Smoke and Illumination, MK-13 MOD 0 or MK-124 MOD 0 (Note 2)	2	NAVAIR 13-1-6.5
Sea (Dye) Marker, Fluorescent	2	NAVAIR 13-1-6.5
Sponge, (Bailing), Cellulose Type II, Class 2	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet #1 (Medical) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet #2 (General) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 7)	Optional	NAVAIR 13-1-6.5
Water, Drinking, Canned (Note 4)	1	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 5) or	6	NAVAIR 13-1-6.5
Water, Drinking, Emergency (118 ml) (Note 5)	3	NAVAIR 13-1-6.5
Opener, Can, Hand (Note 6)	1	NAVAIR 13-1-6.5
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Blanket, (Combat) Casualty, (3 oz)	1	NAVAIR 13-1-6.5
Envelope, Packing List	2	NAVAIR 13-1-6.5
Beacon Set, Radio	1	NAVAIR 13-1-6.5
Liferaft, Inflatable	1	NAVAIR 13-1-6.1-1
<p>Notes: 1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIRWARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.</p> <p>2. MK-13 MOD 0 shall be used until stocks are depleted. MK-124 MOD 0 will replace MK-13 MOD 0 as stocks become available.</p> <p>3. SRU-31/P complete kits including Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.</p> <p>4. When the supply for emergency canned water has been exhausted use bagged drinking water.</p> <p>5. If Bag, Drinking Water (50 ml), is not available, substitute Water, Drinking, Emergency (118 ml), in accordance with NAVAIR 13-1-6.5.</p> <p>6. If canned water is not being used there is no need to pack can opener.</p> <p>7. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.</p>		

Table 4-2. Nylon Cord Lengths Required for Binding

Length (Inches)	Number Required
140	1
12 (Note 1)	5
30	1
36	2
40	3
50 (Note 1)	1

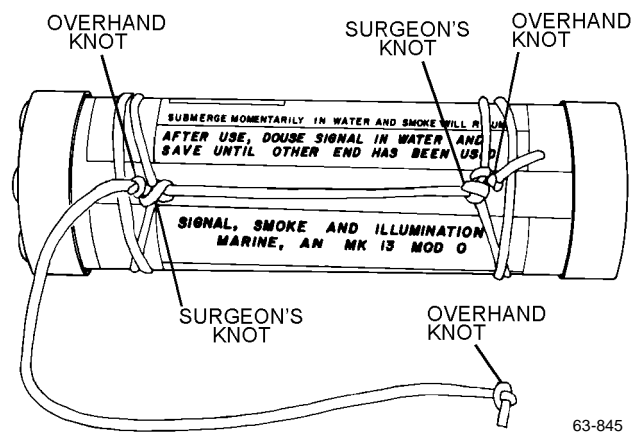
Notes: 1. When using bagged water in place of canned emergency water, the number of required 12 inch lengths will be a total of 6 and the required 50 inch lengths will be a total of 0.

1. Tie overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around combat casualty blanket. Rotate cord 1/4 turn as shown and wrap cord ends around opposite side of blanket. Tie with surgeon's knot. Ensure that overhand knot is snugly against surgeon's knot.



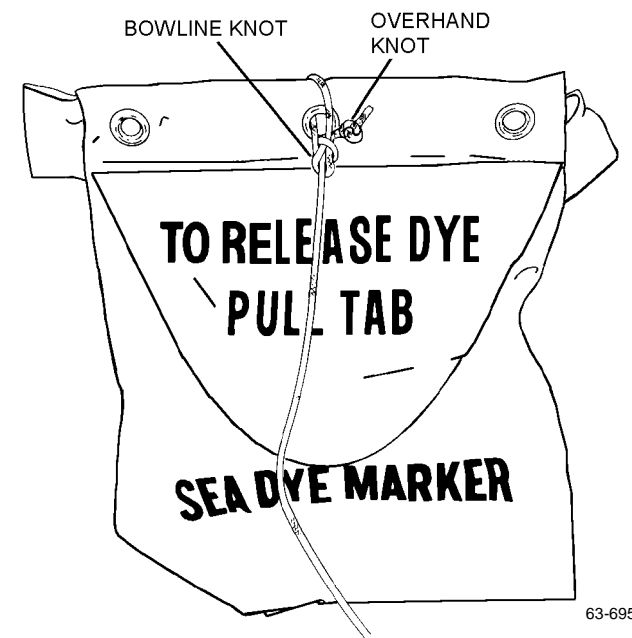
2. Tie overhand knot in both ends of a 36-inch piece of nylon cord. Wrap one end of cord two overlapping turns around end of one signal flare and tie with surgeon's knot positioned snugly against cord-end overhand knot.

3. Route cord to opposite end of signal flare. Wrap cord two overlapping turns around end of flare and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Cord between end-ties shall be drawn tight.



4. Tie second signal flare in same manner as steps 2 and 3.

5. Tie overhand knot near both ends of a 12-inch piece of nylon cord. Pass overhand knot through center grommet in dye marker and tie a bowline knot, allowing an approximate 1-inch loop. Bowline knot should be snugly against overhand knot.

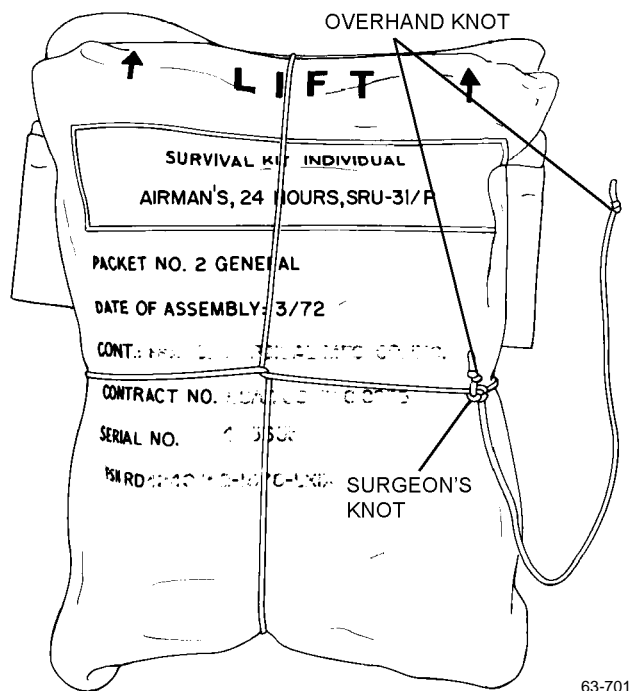


6. Tie second sea dry marker in same manner as [step 5](#).

NOTE

SRU-31/P Packet #1 (Medical) shall be folded approximately in half prior to tying.

7. Tie overhand knot in both ends of a 40-inch length of nylon cord. Wrap cord around one SRU-31/P packet until both ends meet; then rotate cord 1/4 turn and wrap cord ends around opposite sides of packet. Tie with surgeon's knot with cord-end overhand knot positioned snugly against surgeon's knot.

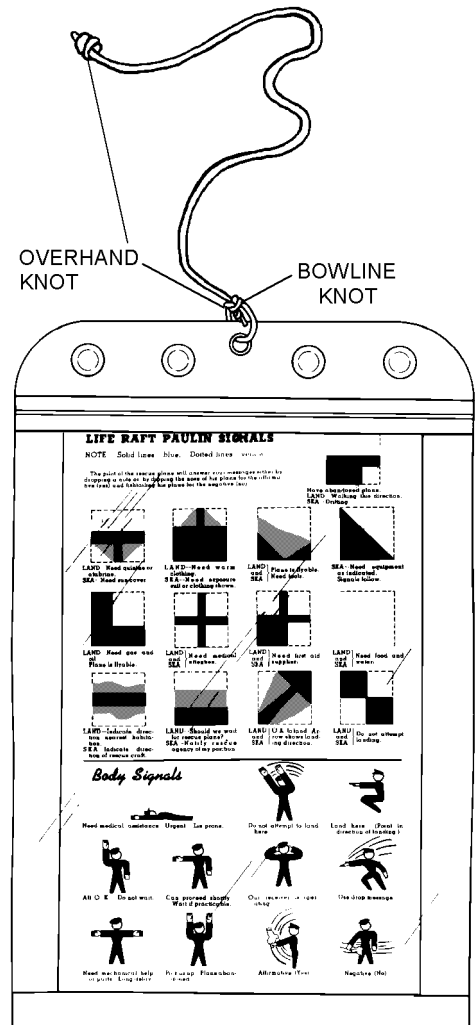


63-701

Step 7 - Para 4-21

8. Secure second SRU-31/P packet in same manner as [step 7](#).

9. Place Ground/Air Emergency Code Card into clear vinyl plastic envelope (MIL-B-117) and close sealing slide fastener. Using 12-inch piece of nylon cord, tie overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1-inch loop. Position cord-end overhand knot snugly against bowline knot.

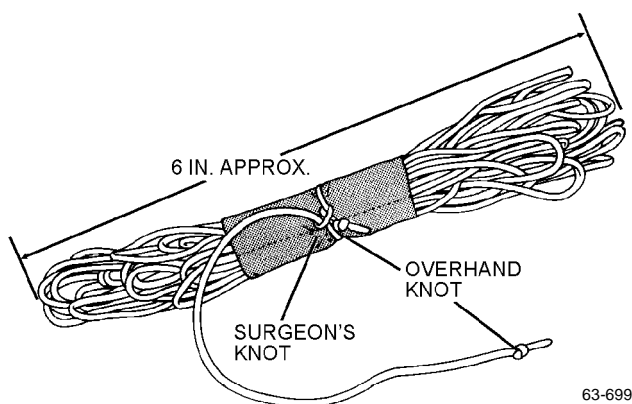


63-700

Step 9 - Para 4-21

NAVAIR 13-1-6.3-2

10. Cut one 2 x 3-inch piece of nylon duck material. Accordion-fold 50-foot length of nylon cord in 6-inch bights, and wrap material around center of accordion folded cord. Using 12-inch piece of nylon cord, tie overhand knot near each end and secure one end of cord to center of material with surgeon's knot. Position cord-end overhand knot snugly against surgeon's knot.



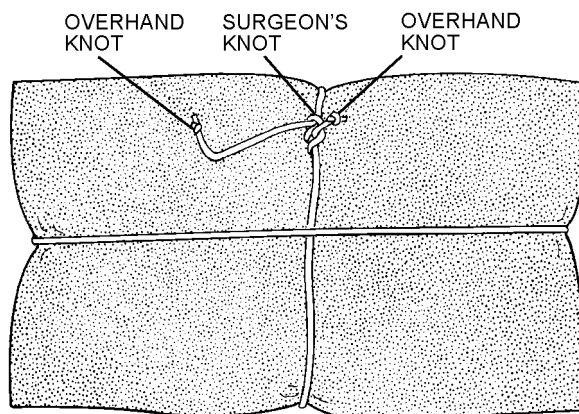
Step 10 - Para 4-21

11. Tie overhand knot in each end of a 12-inch length of nylon cord. Pass overhand knot through hole in can opener, and tie a bowline knot with 1-inch loop. Ensure that overhand knot is snugly against bowline. Wrap pointed end of can opener with chafing material and secure in place with a rubber band.

NOTE

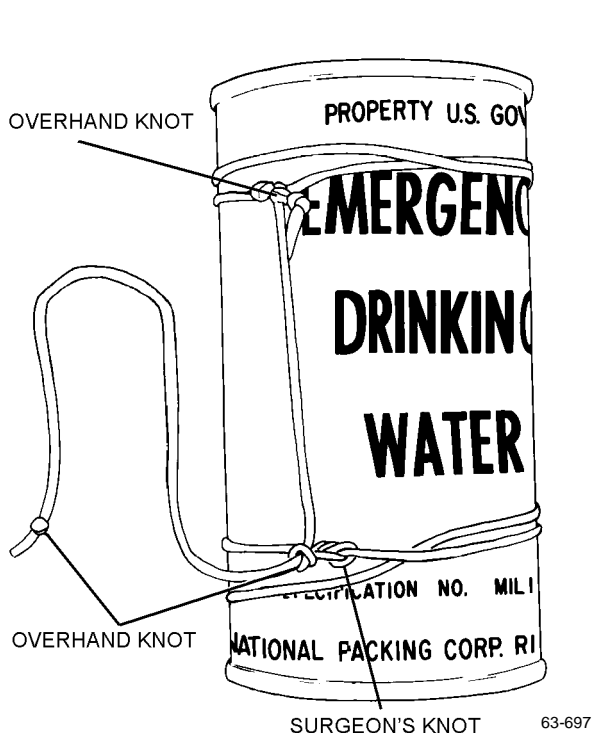
The bailing sponge should be compressed to a minimum thickness by compressing while damp and then allowing to dry in the compressed state before tying.

12. Tie overhand knot near ends of a 30-inch length of nylon cord. Wrap cord around sponge until both ends meet; then rotate cord 1/4 turn and wrap cord ends around opposite sides of sponge. Tie with a surgeon's knot with cord-end overhand knot positioned snugly against surgeon's knot.



Step 12 - Para 4-21

13. Tie overhand knot near both ends of a 50-inch piece of nylon cord. Wrap one end of cord two overlapping turns around end of canned water and tie with surgeon's knot positioned snugly against cord-end overhand knot. Route cord to opposite end of can. Wrap cord two overlapping turns around end of can and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Cord between end-ties shall be drawn tight.

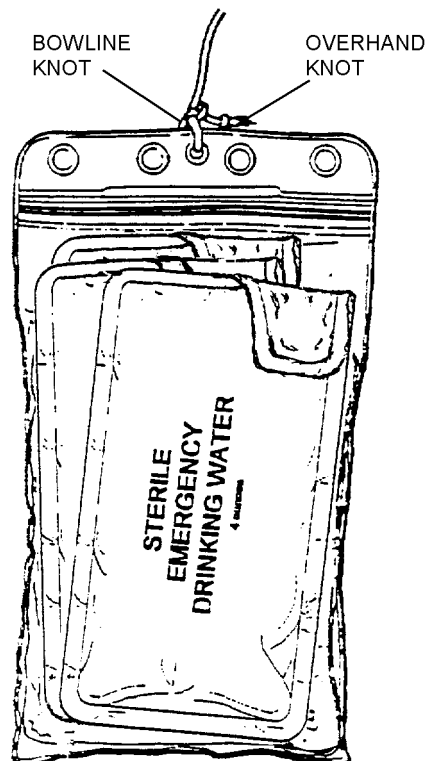


Step 13 - Para 4-21

NOTE

Replacement rate of exhausted canned water shall be in accordance with the NAV-AIR 13-1-6.5 manual. Bagged emergency drinking water shall be stowed in the same order as canned emergency water. The bags of water shall be stowed in a flat configuration.

14. Bagged water. Place a maximum of three 4-ounce bagged emergency drinking water flat inside a clear vinyl envelope (MIL-B-117) with pour spout folded down. Bagged water must be able to fit into envelope without disrupting the closure of the sealing slide fastener. Using a 12-inch length of cord, tie an overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1-inch loop. Position an overhand knot snugly against the bowline knot. Ensure overhand knot is snug against surgeon's knot.



Step 14 - Para 4-21

15. Using the 140-inch length of Type I nylon cord, form a 3/4 to 1-inch overhand loop knot approximately 12 inches from one end. Continue making these loops every 5 inches until a total of 12 loops are completed. Ensure 25 (± 1) inches of cord remains after tying the last overhand loop knot.

NOTE

Tie survival items to 140-inch cord in the order shown in [figure 4-4](#).

16. Tie each item to a loop using a surgeon's knot with cord-end overhand knot positioned snugly against surgeon's knot.

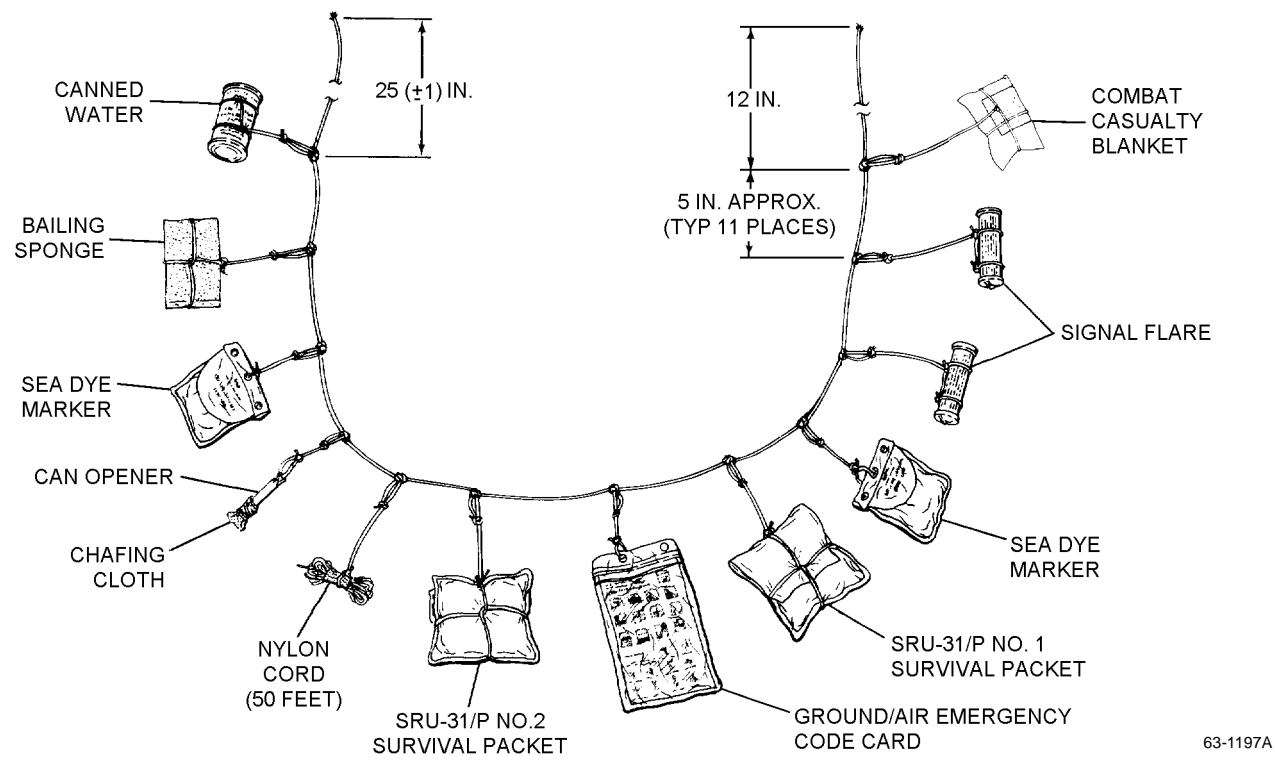


Figure 4-4. Binding Survival Items

4-22. SURVIVAL EQUIPMENT PACKING. To pack survival equipment into equipment container, proceed as follows:

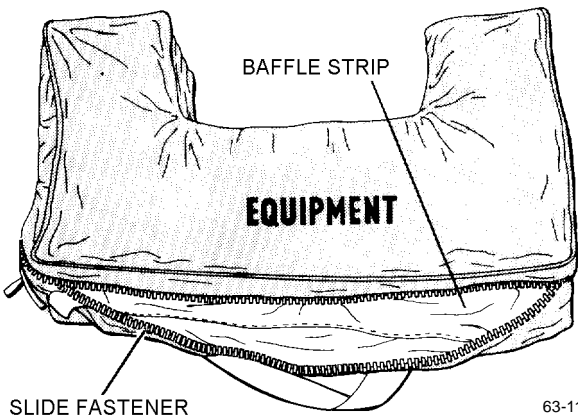
1. Position equipment container on table with slide fastener facing packer and the word **EQUIPMENT** on top. Open slide fastener from right to left.

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type III 550 pound	MIL-C-5040 NIIN 00-240-2146
	Thread, Nylon, Type II, Class A, Size E	V-T-295 NIIN 00-244-0609

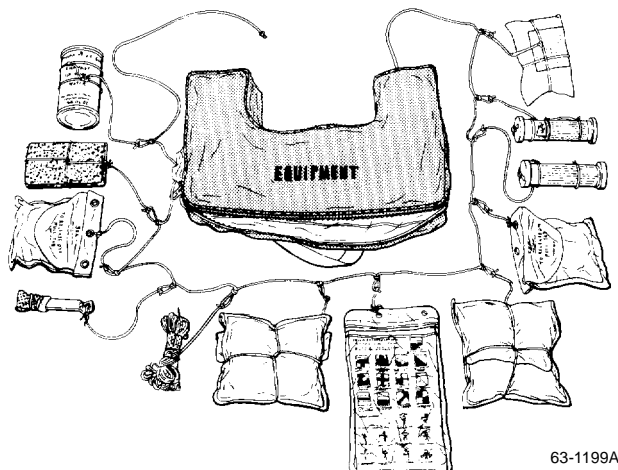
NOTE

No item has a top or bottom designation; however, its longitudinal axis may be important.



Step 1 - Para 4-22

2. Position bound items to be packed in front of survival package.

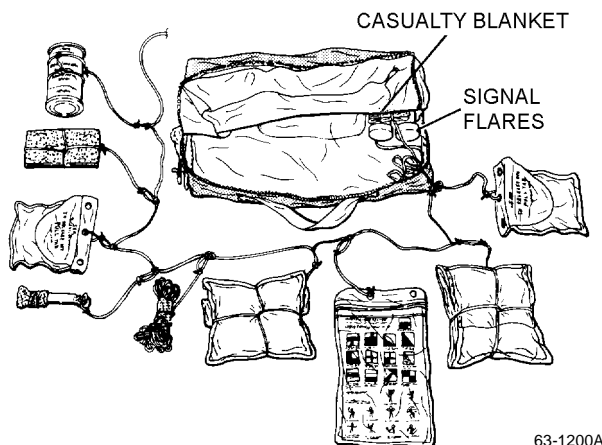


Step 2 - Para 4-22

3. Insert 12-inch bitter end (closest to casualty blanket) of 140-inch nylon cord through loop in forward right leg portion of equipment container. Tie with a 2-inch loop bowline knot and an overhand knot. Ensure that overhand knot is snugly against bowline.

4. Stow bound survival items into equipment container as follows:

a. Stow two signal flares in right leg pocket of equipment container. Position flares so that their longitudinal axes are perpendicular to slide fastener. Position casualty blanket on top of signal flares.

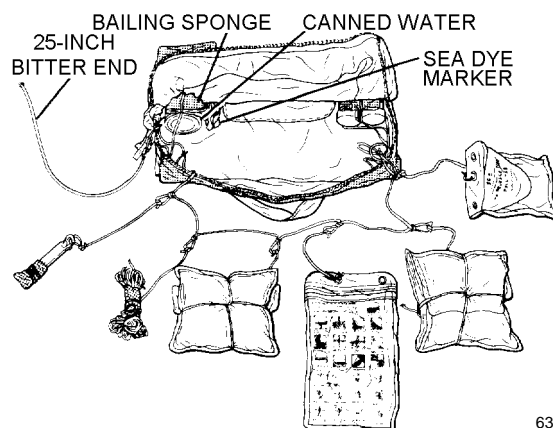


Step 4a - Para 4-22

NOTE

Ensure that the 25 (± 1)-inch bitter end (closest to the canned water) of the 140-inch nylon cord remains extended outside equipment container.

b. Stow canned water in aft leg of equipment container so that longitudinal axis is perpendicular to slide fastener. Stow sea dye marker next to canned water and place bailing sponge on top of canned water.

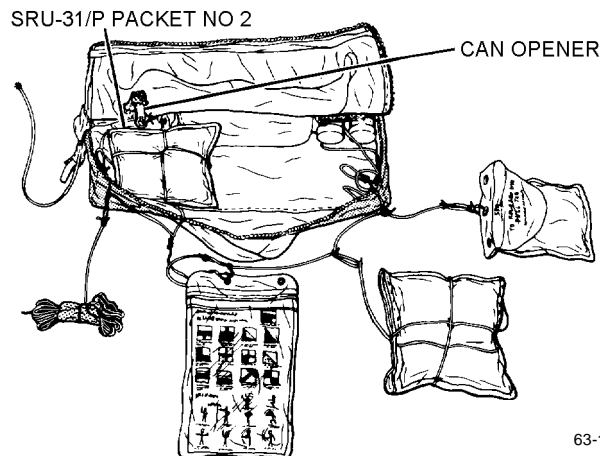


Step 4b - Para 4-22

NOTE

Ensure that chafing material is secure around pointed edge of can opener so can opener will not damage survival items.

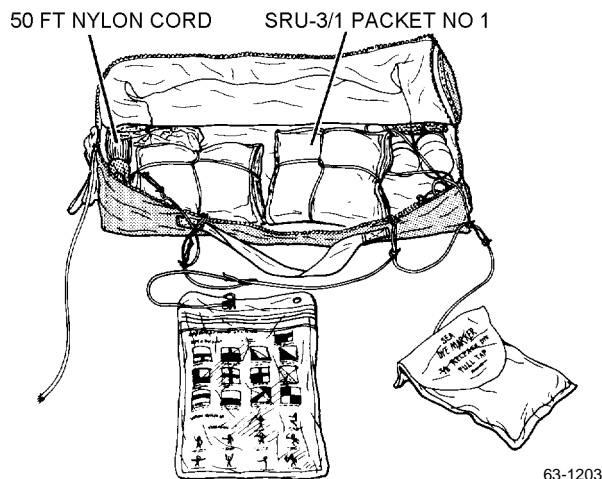
c. Place can opener, point aft and down between water can and sea dye marker. Place SRU-31/P Packet #2 along aft end of equipment container so that longitudinal axis is parallel to slide fastener.



Step 4c - Para 4-22

NAVAIR 13-1-6.3-2

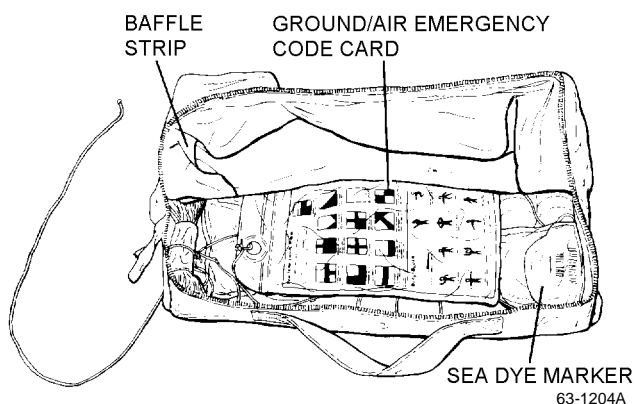
d. Stow SRU-31/P Packet #1 to right of SRU-31/P Packet #2 so that longitudinal axis is parallel to slide fastener. Stow the 50 feet of nylon cord to left of SRU-31/P Packet #2 so that longitudinal axis is perpendicular to slide fastener.



63-1203

Step 4d - Para 4-22

e. Stow sea dye marker to right of SRU-31/P Packet #1. Place Ground/Air Emergency Code Card in center section of equipment container on top of SRU-31/P Packet #1 so that longitudinal axis is parallel to slide fastener.

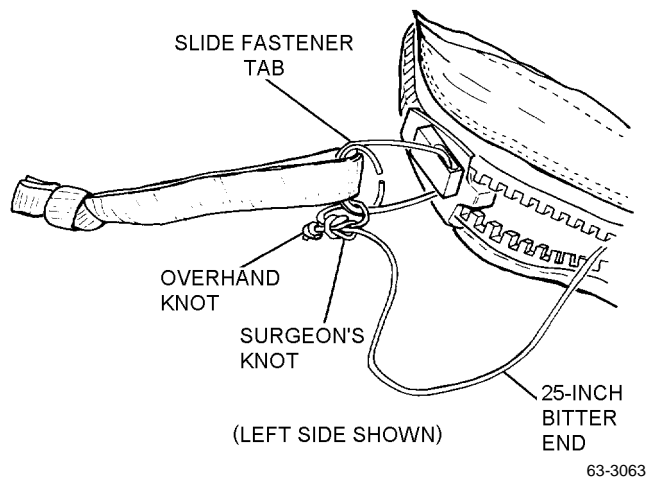


63-1204A

Step 4e - Para 4-22

f. Ensure that survival items are properly stowed and that the 25 (±1)-inch bitter end is extended out the side of equipment container.

g. Tie 25 (±1)-inch bitter end to the slide fastener tab with a surgeon's knot. Position cord-end overhand knot snugly against surgeon's knot.



63-3063

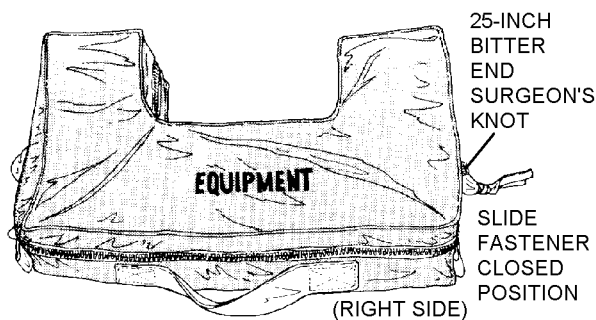
Step 4g - Para 4-22

h. Pull baffle strip (step 4e) down and position it between stowed equipment and slide fastener.

NOTE

Ensure nylon cord does not become caught in slide fastener.

i. Move slide fastener to right side to close equipment container.



63-1205A

Step 4i - Para 4-22

5. Place equipment container (with word EQUIPMENT up) in forward section of lower container.

NOTE

Ensure that radio beacon is clear of cords and lanyards.

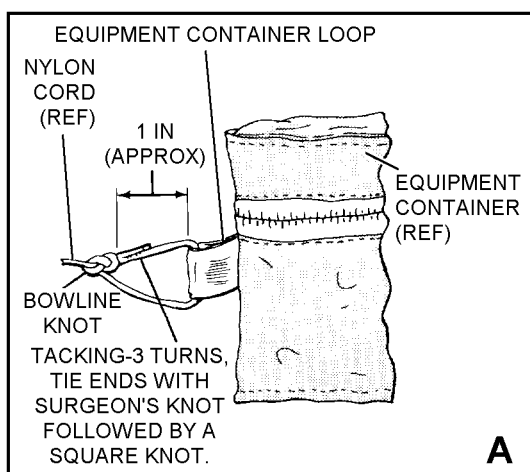
6. To connect equipment container to dropline, see figure 4-5 and proceed as follows:

- a. Cut a 52 (± 1)-inch length of Type III nylon cord and sear ends.
- b. Attach midpoint of cord with a lark's head knot at a point just above inverted V of dropline.
- c. Secure cord to left side web loop of equipment container using a bowline knot (figure 4-5).
- d. Secure cord to right side web loop of equipment container in same manner as step c above.

NOTE

All tacking cord shall be coated with a mixture of 50% beeswax and 50% paraffin. The cord may be dipped in a melting pot 160° to 200°F or drawn across a solid block of the mixture.

- e. Tack bitter end of bowline knots (in steps c and d above) at each equipment container loop (figure 4-5). Tack with 3 turns of size E nylon thread, single. Tie thread ends with surgeon's knot followed by a square knot.



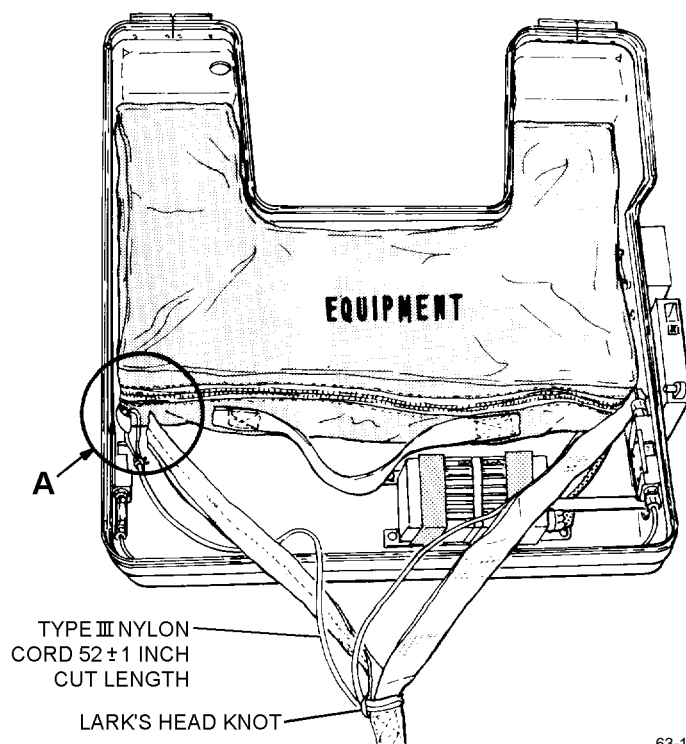
4-23. STOWING DROPLINE. To stow dropline in boots, proceed as follows:

NOTE

Stowage boots are referred to as boot A and boot B for identification purposes only. There are no physical differences between boots and the letters A and B do not actually appear on them.

Numbers on stowage channels of boots correspond to dropline bights and the order in which they are to be stowed. Numbers appear in illustration for clarity; they do not actually appear on stowage boots. To fabricate boots, refer to paragraph 4-72.

The identification yarn on earlier fabricated dropline assemblies may be located on the underside of the webbing. This is not considered a safety of flight. However, procedural steps depicting identification yarn location will be reversed throughout the dropline stowage procedures for these assemblies. Future fabrication of the dropline for the SKU-3/A will be in accordance with paragraph 4-73.



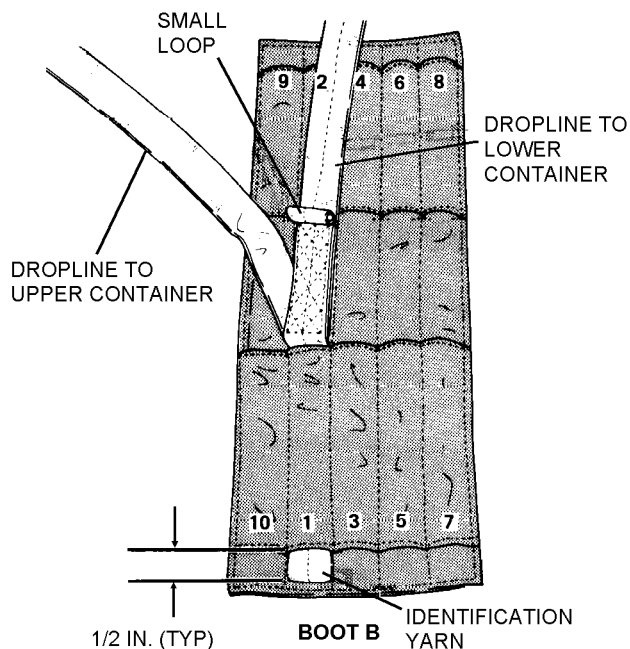
63-1206A

Figure 4-5. Stowed Survival Equipment Container

NAVAIR 13-1-6.3-2

1. Lay dropline out flat between container halves with dropline loops up. Remove all twists from dropline prior to beginning stowing operation.

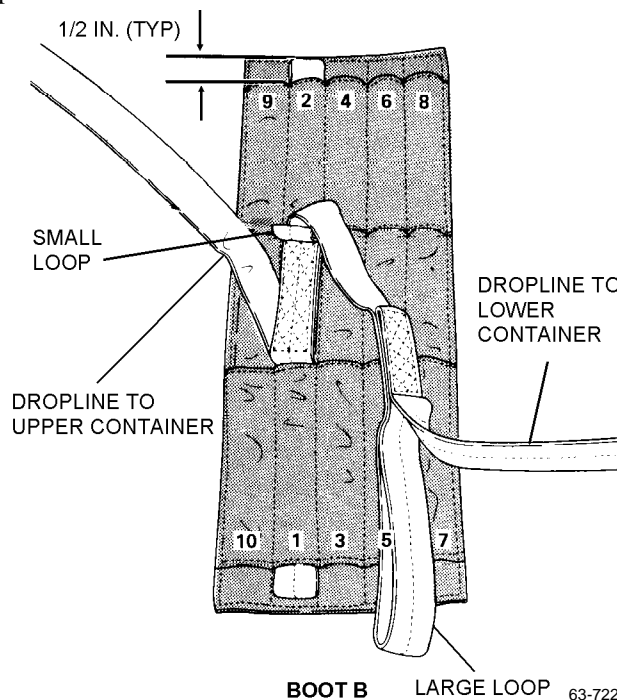
2. Position boot B to the left of lower container. Form the first bight 5 ± 1/2 inches from base of small loop stitching. Bight shall be in portion of dropline going to upper container and small loop shall face up. Stow bight in channel 1 of boot B. Push bight into channel with a 7-inch length of 3/8-inch hardwood dowel tapered at one end. There shall be a 1/2-inch protrusion at end of channel and identification yarn shall be visible at protrusion.



Step 2 - Para 4-23

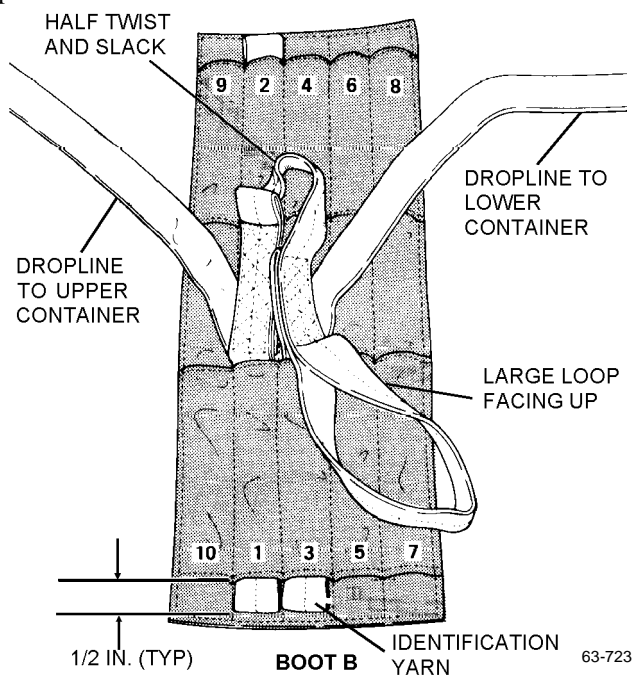
63-721

3. Second bight shall be formed in portion of dropline going from small loop and shall be stowed in channel 2. Identification yarn shall not show at protrusion.



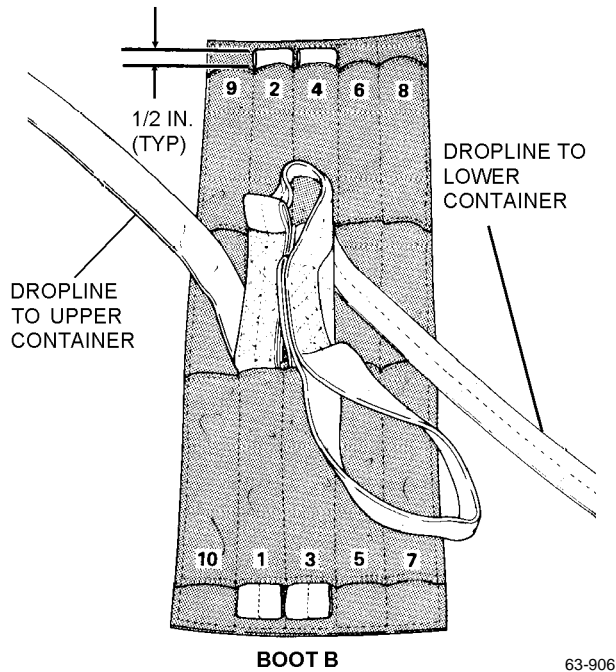
Step 3 - Para 4-23

4. Place a half-twist in dropline by rotating clockwise so that large loop faces up. Stow third bight in channel 3. A small amount of slack may exist between bights 2 and 3. Identification yarn shall be visible at protrusion.



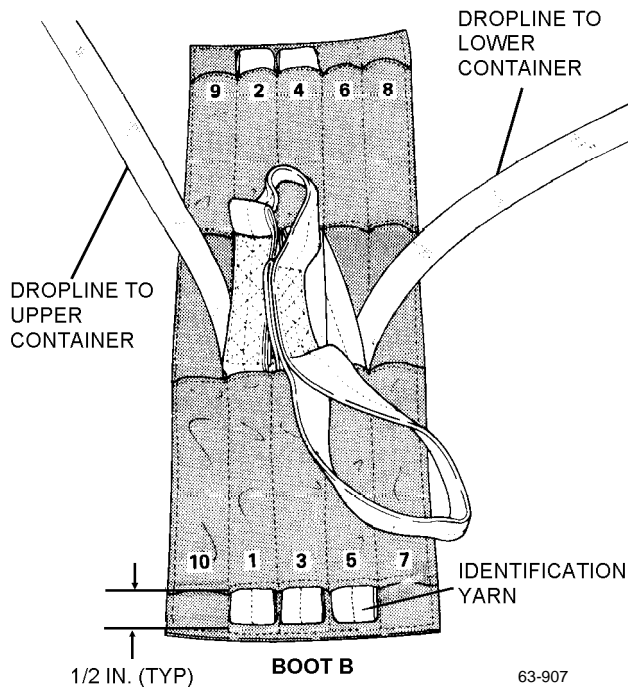
Step 4 - Para 4-23

5. Stow fourth bight in channel 4, ensuring that identification yarn does not show at protrusion.



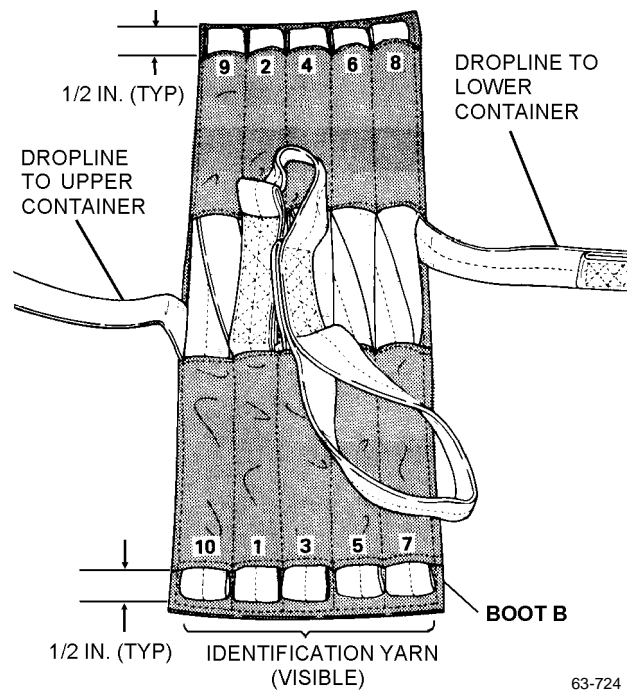
Step 5 - Para 4-23

6. Stow fifth bight in channel 5, ensuring that identification yarn is visible at protrusion.



Step 6 - Para 4-23

7. Stow remainder of dropline in boot B in accordance with numbering sequence on boot as shown, maintaining 1/2-inch protrusion. If there is insufficient line, due to allowable tolerance in length of dropline, a full stow may not be possible in channel 8.



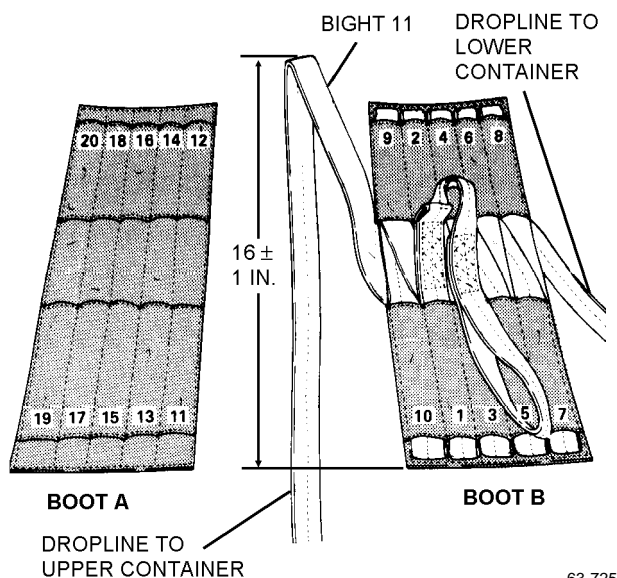
Step 7 - Para 4-23

NOTE

Upon the completion of [step 7](#), identification yarn shall be visible at channels 1, 3, 5, 7 and 10, and shall not show at channels 2, 4, 6, 8 and 9.

NAVAIR 13-1-6.3-2

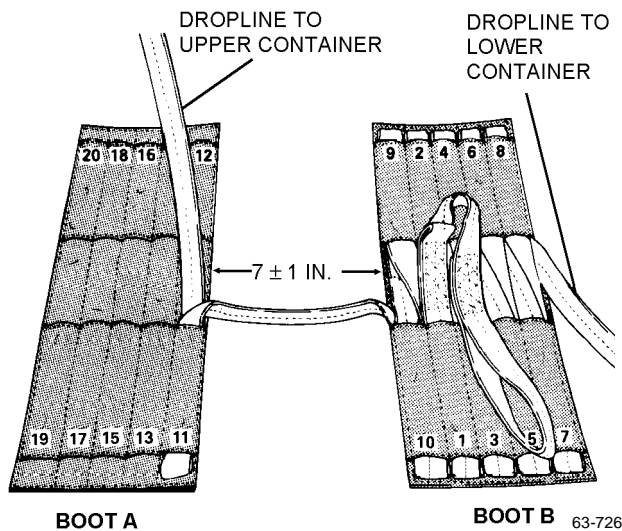
8. Form bight 11 in dropline 16 \pm 1 inch from bottom of last bight (bight 10) in boot B.



63-725

Step 8 - Para 4-23

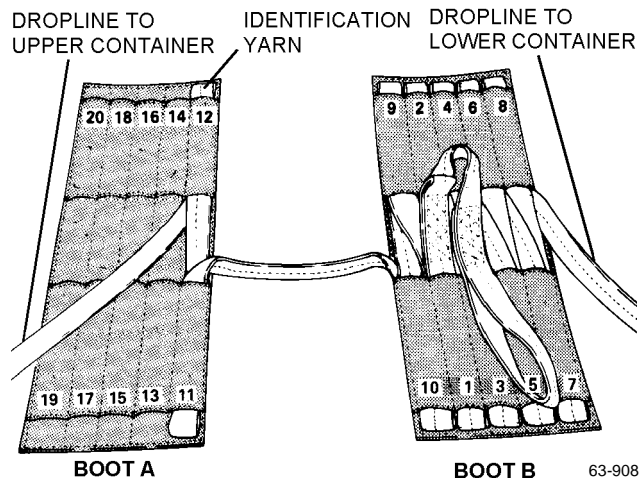
9. Stow bight 11 (formed in [step 8](#)) in channel 11 of boot A. There shall be 7 \pm 1 inch of dropline between boots A and B when bight 11 is stowed. Identification yarn shall not show at protrusion.



63-726

Step 9 - Para 4-23

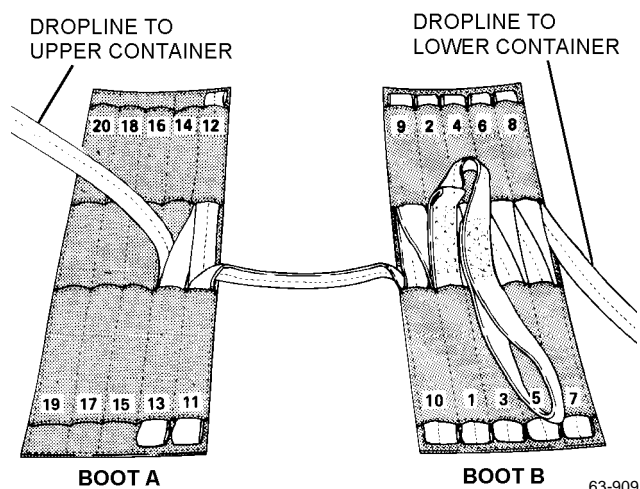
10. Stow bight 12 in channel 12 of boot A. Identification yarn shall be visible at protrusion.



63-908

Step 10 - Para 4-23

11. Stow bight 13 in channel 13. Identification yarn shall not show at protrusion.



63-909

Step 11 - Para 4-23

12. Continue stowing bights in boot A until all line is stowed. Maintain 1/2-inch protrusion ([figure 4-6](#)).

NOTE

Upon the completion of [step 12](#), identification yarn shall be visible at channels 12, 14, 16, 18 and 20 and shall not show at channels 11, 13, 15, 17 and 19.

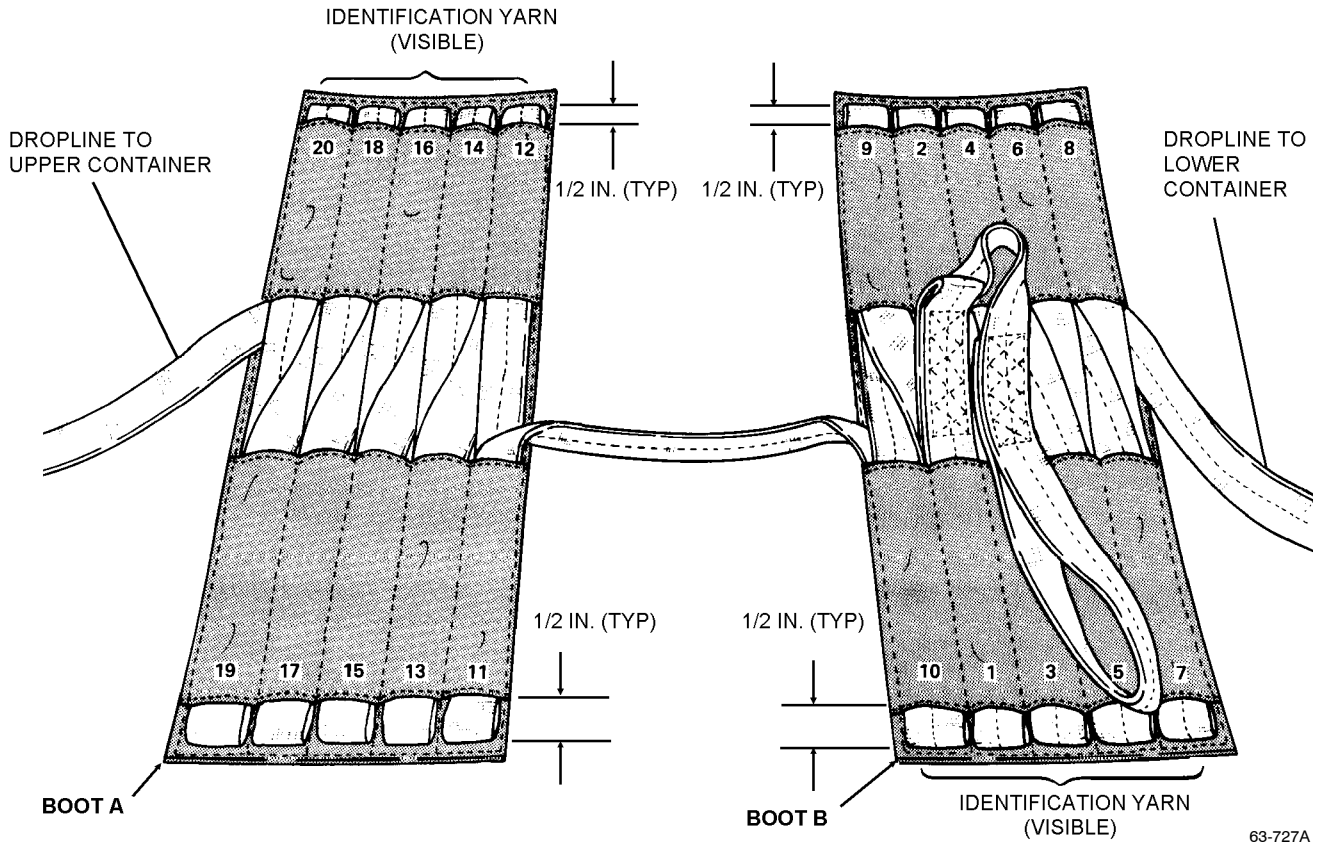


Figure 4-6. Stowage of Dropline

4-24. LIFERAFT PREPARATION, FOLDING, RIGGING AND PACKING. To prepare, fold, rig and pack the LR-1 liferaft, proceed as follows:

Materials Required

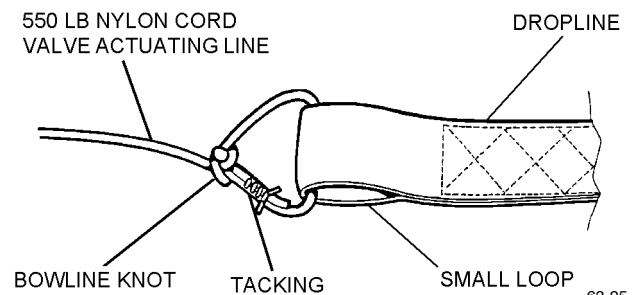
Quantity	Description	Reference Number
As Required	Cord, Nylon, 550 lb, Type III	MIL-C-5040 NIIN 00-240-2146
As Required	Thread, Nylon, Type II, Class A, Size E	V-T-295 NIIN 00-244-0609
As Required	Thread, Nylon, Type II, Class A, Size 6	V-T-295 NIIN 00-559-5211
As Required	Talc, Technical, T1	MIL-T-50036A (CAGE 81349) NIIN 00-543-7612
As Required	Rubber Band, Type I	MIL-R-1832 (CAGE 81349) NIIN 00-568-0323

NOTE

If the valve actuating line is damaged, incorrectly installed, or not installed, install new line in accordance with [steps 1](#) and [2](#).

1. Cut 15-inch length of 550-pound Type III nylon cord and sear ends.

2. Route one end through small loop on dropline and tie bowline knot. Tack with three turns of waxed nylon thread, size E, single. Tie ends with surgeon's knot followed by a square knot.



Step 2 - Para 4-24

NAVAIR 13-1-6.3-2

3. Lay liferaft assembly flat with inside facing upward and bow to right ([step A, figure 4-7](#)).

4. Ensure that all trapped air is expelled from liferaft. Ensure that oral inflation valve is locked and stowed in pocket prior to folding.

5. Lightly dust entire liferaft assembly with talc (MIL-T-50036A).

6. Fold sea anchor line in 7-inch bights; secure with rubber bands (MIL-R-1832, Type I). Fold sea anchor and stow in pocket ([step B, figure 4-7](#)).

7. Roll and secure weathershield ([step C, figure 4-7](#)).

8. Fold liferaft as follows:

WARNING

Gas under pressure. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

a. Position CO₂ cylinder in liferaft stowage pocket with antichafing disc on inlet check valve.

NOTE

Maximum width of folded liferaft shall not exceed length of CO₂ cylinder.

b. Fold stern liferaft toward bow and bring end even with rear of CO₂ cylinder ([step D, figure 4-7](#)).

c. Fold liferaft over again in same direction aligning edge with top of CO₂ cylinder ([step E, figure 4-7](#)).

d. Fold bow of liferaft over toward stern. Width of this fold shall be slightly less than length of CO₂ cylinder ([step F, figure 4-7](#)).

e. Fold bow over previous folds ([step G, figure 4-7](#)).

f. Fold bow back over previous folds. Adjust folds as necessary so width of folded liferaft does not exceed length of CO₂ cylinder. Flatten liferaft by hand as much as possible ([step H, figure 4-7](#)).

9. Position folded liferaft assembly aft of lower container. Position CO₂ cylinder on top of folded liferaft for ease in making connections.

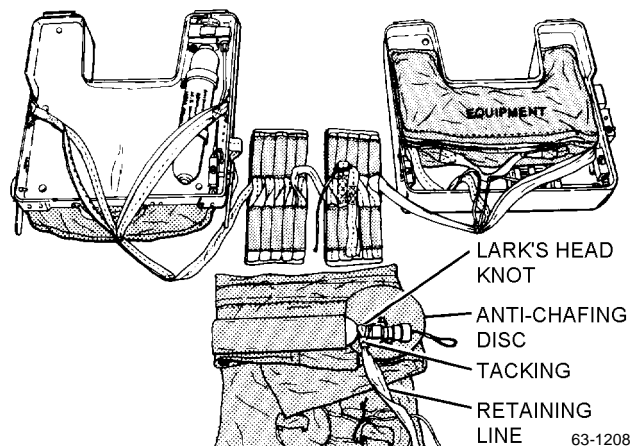
WARNING

Gas under pressure. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

NOTE

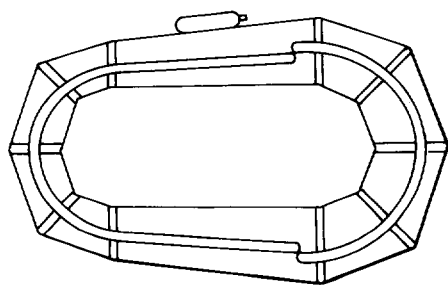
Ensure that the CO₂ cylinder is in its stowage pocket and the inflation valve is disconnected from the liferaft. Ensure that the antichafing disc is in position on the inlet check valve.

10. Attach liferaft retaining line to cylinder with a lark's head knot. Pull knot tight and tack with two turns of waxed nylon thread, size 6, single. Tie ends with surgeon's knot followed by a square knot.

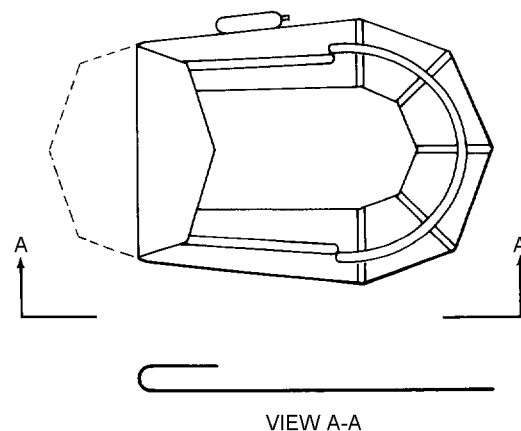


Step 10 - Para 4-24

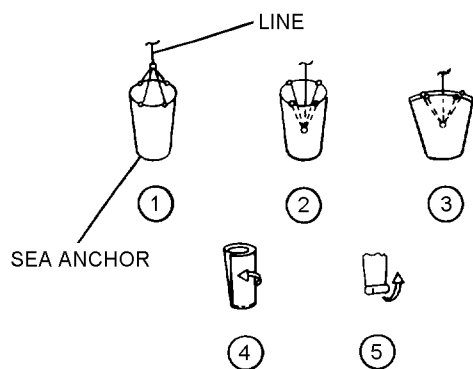
11. Accordion-fold remainder of retaining line and stow in liferaft retaining line pocket. Close pocket closure tab and secure hook and pile tape.



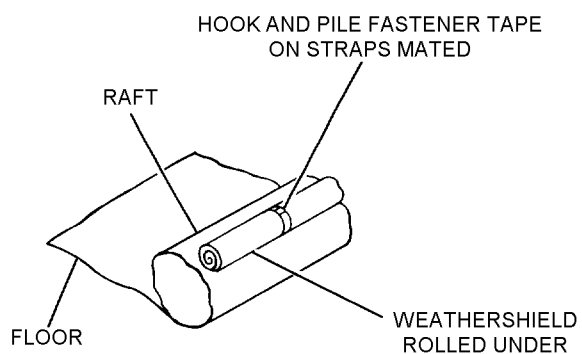
STEP A



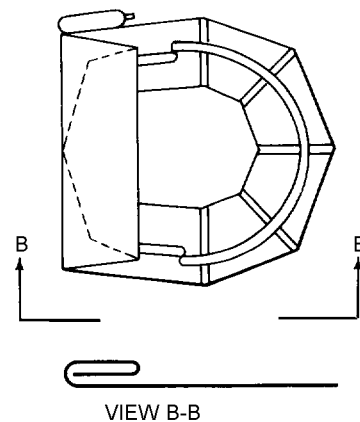
STEP D



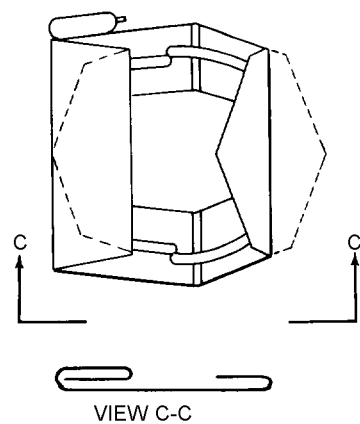
STEP B



STEP C



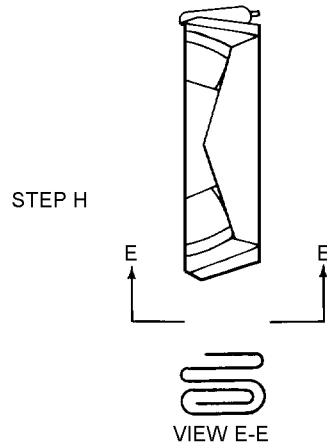
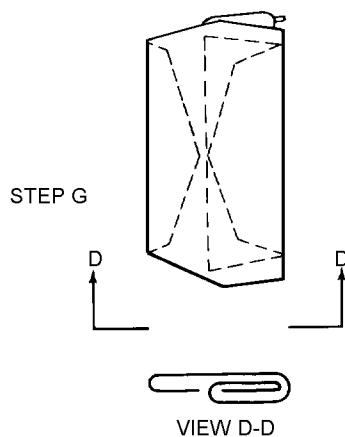
STEP E



STEP F

63-1207-1

Figure 4-7. Folding Liferaft (Sheet 1 of 2)



63-1207-2

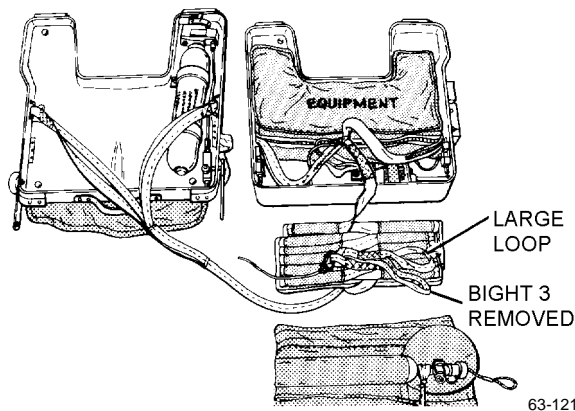
Figure 4-7. Folding Liferaft (Sheet 2 of 2)

NOTE

When repositioning boots, it may be necessary to move upper container. Make adjustments as necessary.

12. Position boot B on top of boot A and place boots between liferaft and lower container with large loop of dropline facing right.

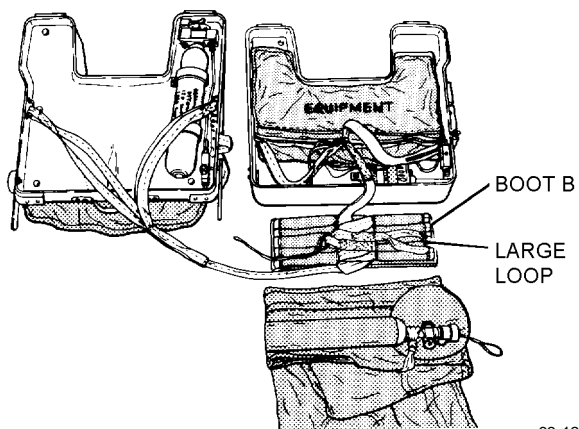
13. Remove bight from channel 3, boot B.



63-1210

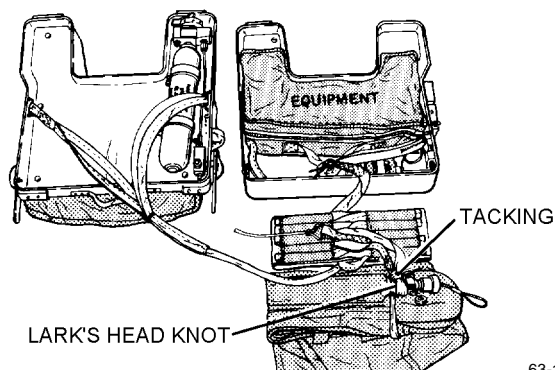
Step 13 - Para 4-24

14. Attach large loop of dropline around neck of cylinder with a lark's head knot. Pull knot tight and tack with two turns of waxed nylon thread, size 6, single. Tie ends with a surgeon's knot followed by square knot.



63-1209

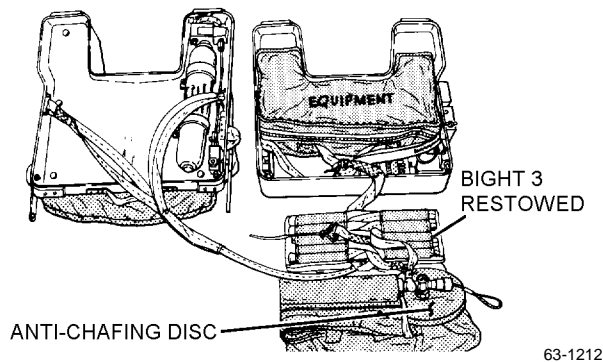
Step 12 - Para 4-24



63-1211

Step 14 - Para 4-24

15. Ensure CO₂ cylinder anti-chafing disc is installed. Attach inflation valve to liferaft inlet valve and tighten coupling nut to a torque value of 80 to 90 in-lbs. Stow bight removed from channel 3 of boot B. Bight will not extend full length of channel.



63-1212

Step 15 - Para 4-24

16. Pass valve actuating line under portions of dropline assembly that are forming the lark's head knot around the neck of the cylinder.

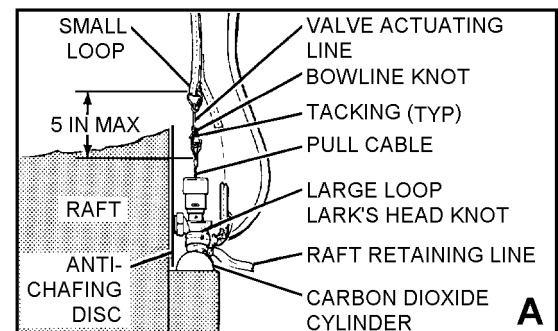
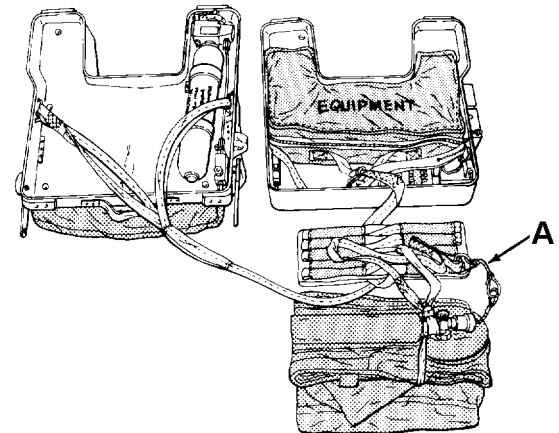
WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

NOTE

It may be necessary to remove part of stowed dropline to make connection.

17. Pass valve actuating line through loop in end of pull cable and tie with a bowline knot. Tack with three turns of waxed size E nylon thread, single. Tie ends with a surgeon's knot followed by a square knot. Finished length shall not exceed 5 inches.



63-1213

Step 17 - Para 4-24

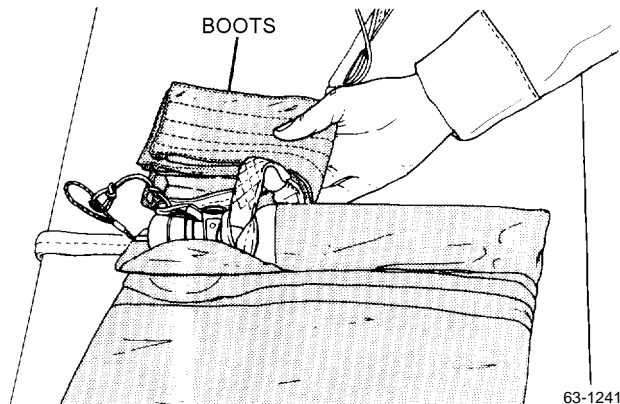
18. Pack liferaft in lower container. To pack liferaft in lower container, proceed as follows:

a. Fold boots A and B in half from right to left.

CAUTION

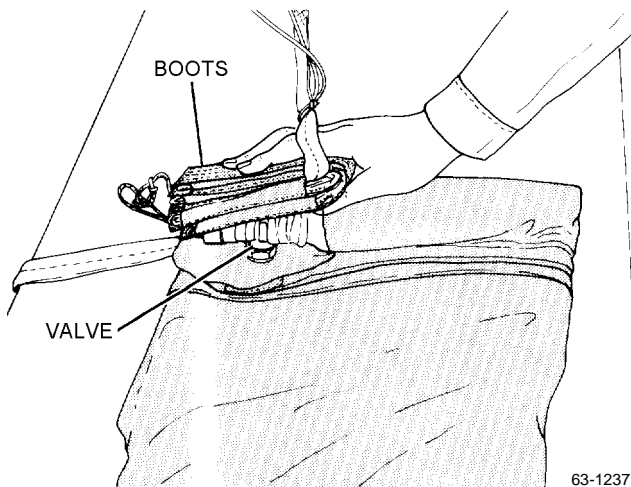
Ensure that the actuation cord is monitored during liferaft rotation to prevent inadvertent liferaft inflation.

b. Rotate liferaft in a counterclockwise direction while holding boot assemblies in set position. Re-position CO₂ cylinder on top of liferaft assembly.



Step 18b - Para 4-24

c. Flip and place boot assemblies on top of valve.

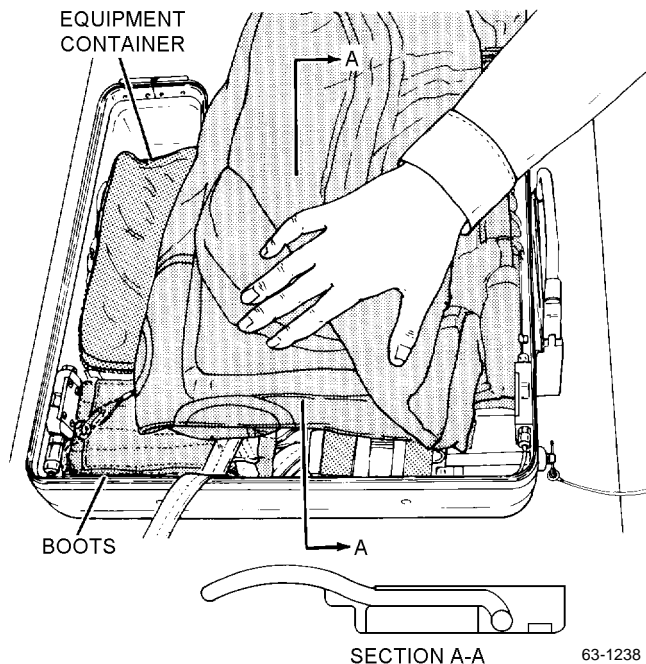


Step 18c - Para 4-24

NOTE

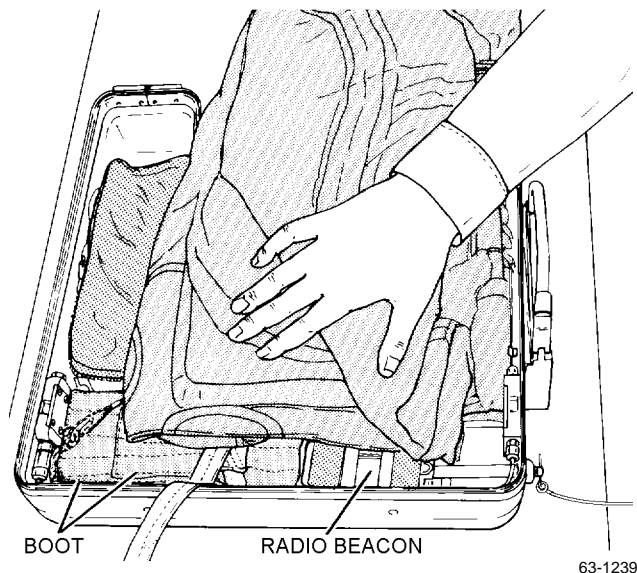
Ensure that radio beacon is clear of cords and lanyards.

d. Flip liferaft and boot assemblies over and place on lower container. Then, place folded boots in lower left corner, CO₂ cylinder in back of equipment container, and liferaft over equipment container.



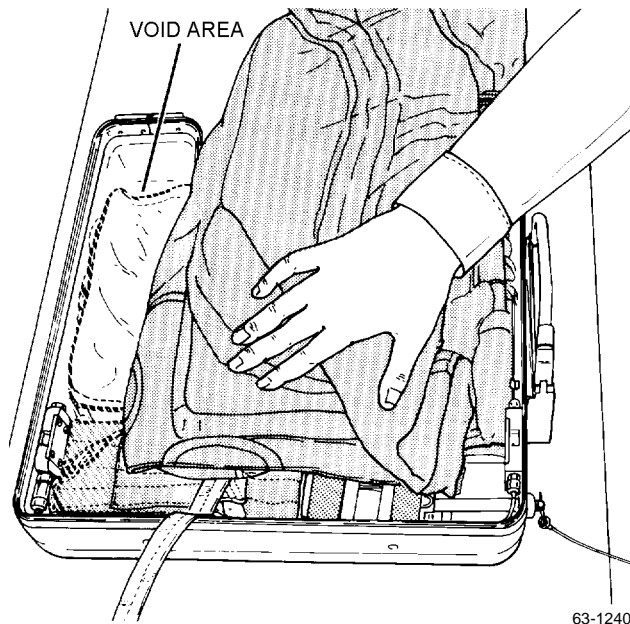
Step 18d - Para 4-24

e. Use the space between the radio beacon and the left edge of the container by spreading the boots apart.



Step 18e - Para 4-24

f. Slide CO₂ cylinder so that end of cylinder butts against right edge of container, creating a void area along left edge of lower container (this void is important in that it will accept oxygen cylinder from upper container).



Step 18f - Para 4-24

g. Fold liferaft over and to rear of lower container (step A, figure 4-8).

h. Fold liferaft forward and tuck fold into aft portion of lower container (step B, figure 4-8).

i. Make a 4-inch fold rearward on top of fold in step B of figure 4-8 (step C, figure 4-8).

j. Fold liferaft forward (step D, figure 4-8).

NOTE

Minimum liferaft adjustment may be required at this point to obtain flattest possible condition.

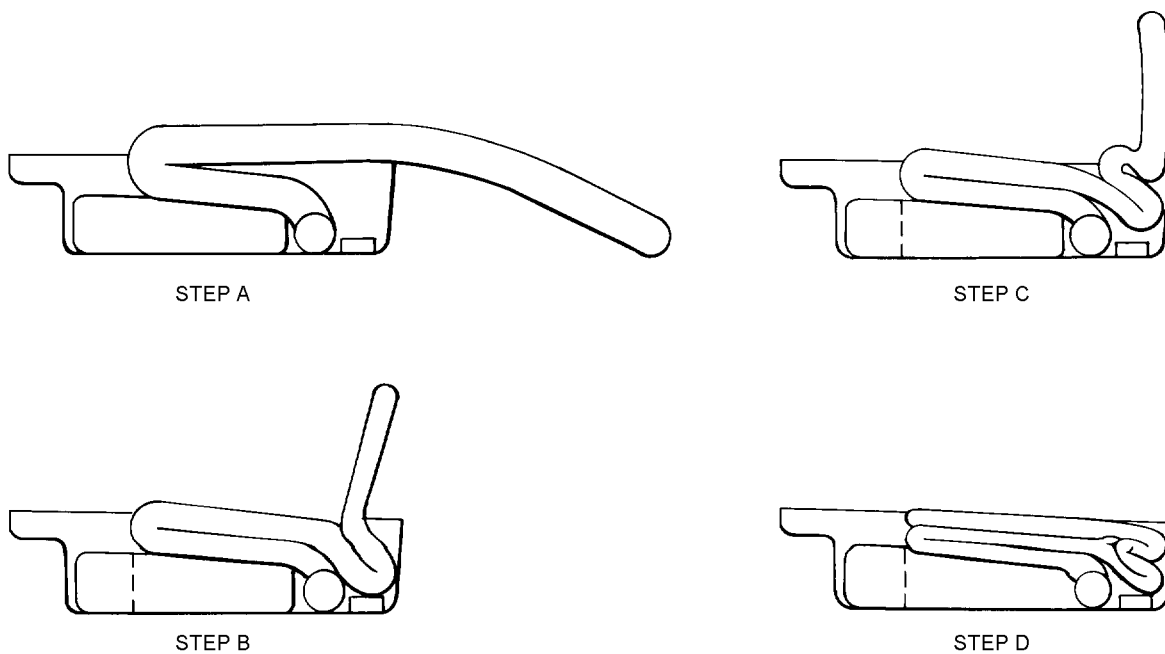
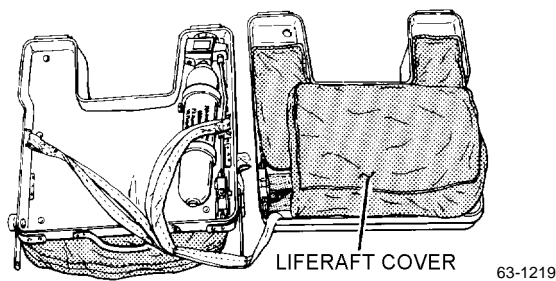


Figure 4-8. Packing Liferaft in Lower Container

NAVAIR 13-1-6.3-2

19. Place cover over liferaft. Tuck in completely around liferaft. Ensure that liferaft material does not extend beyond cover and cover does not extend beyond edges of container.



Step 19 - Para 4-24

4-25. CLOSING CONTAINER. To close the container, proceed as follows:

NOTE

Top section of dropline may be laid on top of liferaft cover after packing.

1. Position lid on top of lower container and engage hinges on lid with hinges on lower container.

2. While closing container, lead emergency oxygen actuating lanyard through hole in left thigh portion of lower container.

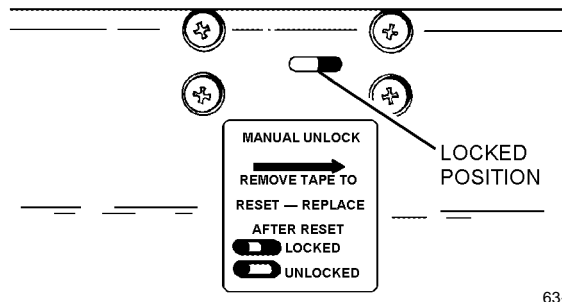
3. Insert release handle into latching mechanism.

NOTE

Ensure that latches and mating surfaces of lid and lower container are free from obstructions.

4. Press lid firmly down on lower container.

5. Verify positive latching by viewing engagement of latches through inspection ports on each side of lower container and comparing with instruction label.



Step 5 - Para 4-25

6. Examine extruded metal lip around container. All locks shall be engaged and seam undistorted. If containers are not properly secured, release handle and repeat [steps 2 through 5](#).

7. Perform release handle pull test. Refer to [paragraph 4-26](#).

8. Charge oxygen system in accordance with [paragraph 4-38](#).

9. Attach cushion to lid.

10. Ensure that 1/2-inch wide clear tape exits over lock engagement inspection ports on each side of lower container.

11. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

4-26. Release Handle Pull Test. To perform release handle pull test, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nylon Cord, Type I	MIL-C-5040 NIIN 00-240-2154

Support Equipment Required

Quantity	Description	Reference Number
1	Scale, Push/Pull, 0-50 Pounds	DPP-50 or DPPH-50 (CAGE 11710)

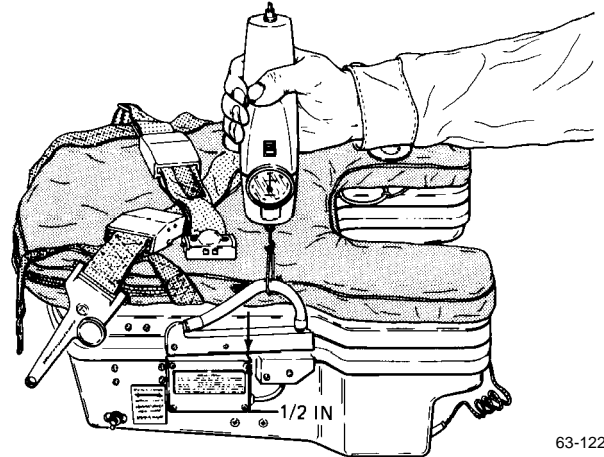
1. Attach a length of Type I nylon cord to release handle at a point approximately 4 1/2 inches forward of handle pivot point. Attach hook on DPP-50 pull scale to cord.

NOTE

Do not exert downward pressure in the latch area while performing pull test. If necessary to steady kit, place hand in center of kit. Use minimum pressure.

The length of travel of the release handle must be measured while performing the pull test.

2. Apply a steady upward pull and note force required to unlock latches. Force required to unlock latches in first 1/2-inch of travel, measured at engagement link, shall be 10 to 30 pounds, and handle shall pull free of engagement link. If failure occurs, refer to table 4-5.



63-1220

Step 2 - Para 4-26

3. Remove pull scale and cord from handle.
4. Reinstall release handle in release mechanism to reset latches. Close kit.
5. Check for proper engagement of latches through inspection ports.

Section 4-4. Turnaround/Daily/Preflight/Postflight/Transfer/Special/Conditional Inspection

4-27. GENERAL.

4-28. The Turnaround/Daily/Preflight/Postflight or Transfer Inspection consists of a visual inspection performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. These inspections shall be performed by line personnel (plane captain) or delegated aircrew-members who have been instructed and found qualified by the Aviator's Equipment Branch.

4-29. The Conditional Inspection is an unscheduled inspection required as the result of a specific situation or set of conditions; e.g., hard-landing inspections or any inspection directed by higher authority that is not ordered in a technical directive.

4-30. The Special (7/14 day, etc.) Inspection shall be performed on inservice survival kits installed in aircraft and in ready room issue. This inspection shall be performed at the Organizational Level of maintenance by personnel assigned to the Aviator's Equipment Branch. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

4-31. TURNAROUND/DAILY/PREFLIGHT/POST-FLIGHT/TRANSFER OR SPECIAL INSPECTION PROCEDURES. Each of subject inspections consists of a visual inspection of the following:

1. Seat kit fit in ejection seat bucket and secure attachment of lugs into seat bucket locks.

NAVAIR 13-1-6.3-2

2. Seat cushion for secure attachment, stains, torn fabric, torn stitching, proper alignment on seat, and secured fasteners.

3. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters, and seat pan attachment fittings.

4. Lapbelt release assembly for loose or missing screws and corrosion.

5. Lapbelt attachment fittings for limited rotation.

6. Oxygen hose assembly for secure attachment, deterioration, corrosion, bent electrical connector pins, and foreign matter in fittings. If repair procedure has been performed on oxygen hose assembly, check external wiring for secure attachment.

7. Oxygen gage for FULL indication.

8. Manual oxygen handle for secure seating and deterioration.

9. The AN/URT-33A radio beacon actuation lanyard for secure attachment to ejection seat bucket. Beacon actuator indicator for bent shaft and hairpin cotter for elongation, corrosion, and proper mousing.

10. Automatic emergency oxygen lanyard for secure attachment. Automatic emergency oxygen lanyard coupling assembly for spring security. Ensure that cable coupling has not separated from rest of cable.

11. Remove cushion and toggle access plug to inspect toggle and cable balls with flashlight.

a. Toggle shall be in vertical (cocked) position relative to reducer assembly.

b. Inspect cables and cable balls for correct routing and engagement with toggle.

c. Replace toggle access plug and cushion.

12. Leg restraint retaining straps for secure fasteners and free movement of leg restraint straps.

4-32. If discrepancies are found or suspected, Maintenance Control shall be notified.

4-33. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready For Issue (RFI) survival kit. Non-RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 4-5. Acceptance/Phased/SDLM/PDM Inspection

4-34. GENERAL.

4-35. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or at the time a reporting custodian accepts a newly assigned aircraft from any source, and on return of an aircraft from SDLM/PDM or other major D-level rework. The Phased/SDLM/PDM Inspection cycle of the survival kit shall be 448 days. In no case, however, shall the phased interval exceed 448 days. The battery test inspection cycle for the AN/URT-33A Radio Beacon is dependent upon the type of the battery installed. Refer to NAVAIR 16-30URT33-1 for battery test inspection cycles and requirements. For acceptance inspection purposes, verification of pyrotechnics and configuration is accomplished by visual record examination only. Disassembly beyond the daily inspection requirements of applicable

publications is not required. Activities may elect to increase the depth of inspection if equipment condition, visual external inspection, or record examination indicates such action is warranted.

4-36. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Visually inspect the following:

1. Cushion for rips, tears, loose or frayed stitching, and general condition.

2. Container surface unclean, rough, misaligned, cracks, nicks, embedded foreign matter, distortion of mating surfaces, and burrs or sharp edges inside or outside survival kit.

3. Condition and security of hook and pile tape.

4. Release handle for wear, corrosion, and damage.
5. Harness assembly for cuts, loose or frayed stitching and webbing and security of attachment.
6. Lapbelt release assembly for loose or missing screws and corrosion.
7. Oxygen and communication hose assembly for cracks and deterioration, bent electrical connector pins, and foreign matter in fittings.
8. Any component loose or otherwise not securely retained.
9. Any functioning part that operates with difficulty.

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10. Emergency oxygen system for contamination, corrosion, damaged oxygen gage, rounded edges on pressure reducer lever, crimped cable housing, and security of swaged balls at ends of both release cables.

11. Evidence of oil preservatives or hydrocarbon material on emergency oxygen system components or hoses.

12. Markings and labels that are missing, insufficient, incorrect, illegible, loose, or not permanent.

13. Cable assemblies for rust, corrosion, fraying and binding.

14. Negative g-strap bracket for secure attachment.

15. Lubricant on upper container lid lock hook surfaces.

4-37. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of the kit. To perform a functional check, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth, Type II	MIL-C-85043

Support Equipment Required

Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) or 31TB1995-1 (CAGE 99251)
1	Scale, Push/Pull 0-50 Pounds	DPPH-50 (CAGE 11710)
1	Toggle Reset Tool	Fabricate IAW paragraph 4-69

WARNING

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

CAUTION

Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures or damage to the seat kit may result. After repair, the entire test procedure shall be performed.

NOTE

Performance of test stand is dependent upon skill of operator. It is imperative that operator be thoroughly familiar with instruments, controls, and connections that comprise systems incorporated in test stand; See NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 to familiarize yourself with 59A120 or 31TB1995 series liquid oxygen converter test stands.

Emergency oxygen cylinder pressures used in this functional test were derived under ideal shop conditions of 70°F (21°C). Variances in ambient air temperatures directly affect charging pressures. Refer to table 4-4 for details.

Ensure that emergency oxygen cylinders are filled to 1800 to 2000 psi.

1. Remove bell jar and connect oxygen outlet hose of kit to fitting (C-1) and ensure that valve (V-2) is open and all other test stand valves are closed (figure 4-9).

2. Attach pull scale to manual emergency oxygen release handle.

3. Measure force required to disengage manual oxygen release. Force required shall be 10 to 30 pounds

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and emergency oxygen system shall actuate and indicate 45 to 80 psi on test stand gage (PG-1).

4. Reset reducer assembly.

5. Turn oxygen supply cylinder to test stand on.

6. Slowly open valve (V-6) on test stand and adjust pressure on gage (PG-1) to 90 psi.

7. Measure force required to disengage manual oxygen release with a scale. Force required shall be 10 to 30 pounds.

NOTE

Any degree of leakage in the oxygen system requires corrective maintenance.

8. Use leak detection compound to check all pressure lines and fittings on survival kit to ensure no leakage.

9. Reset reducer assembly.



Do not increase pressure above 150 psi.

NOTE

Unseating can be determined by listening and observing gage (PG-1) on test stand.

10. Using valve (V-6), increase pressure until relief valve unseats.

NOTE

Pressure may be reduced below opening (unseating) pressure of the relief valve by closing valve (V-6) and opening valve (V-5).

11. Repeat [step 10](#) several times to establish a correct pressure. Relief valve shall unseat at 120 to 140 psi when pressure is increased, and reseat at 110 psi minimum when pressure is decreased. Once re-

seated, relief valve shall be leak tight (no indication on PG-1 of pressure drop).

12. Use leak detection compound to check relief valve to ensure no leakage.

13. Close valve (V-6) and bleed oxygen pressure from system by opening valve (V-5). All pressure is bled when gages (PG-1 and PG-4) indicate 0 psi.

14. Close valve (V-5).

15. Be sure valve (V-2) is opened and all other test stand valves are closed.

16. Measure force required to disengage automatic oxygen release with a scale. Force required shall be 10 to 30 pounds and emergency oxygen shall actuate and indicate 45 to 80 psi on gage (PG-1) on test stand.

17. Connect automatic oxygen release lanyard and reset reducer assembly.

18. Open valve (V-5), and ensure that all other test stand valves are closed.

19. Actuate toggle on reducer to ensure positive flow through valve (V-5). Reset reducer assembly.

20. Open valve (V-8).

21. Slowly close valve (V-5), while observing gage (DF-1).

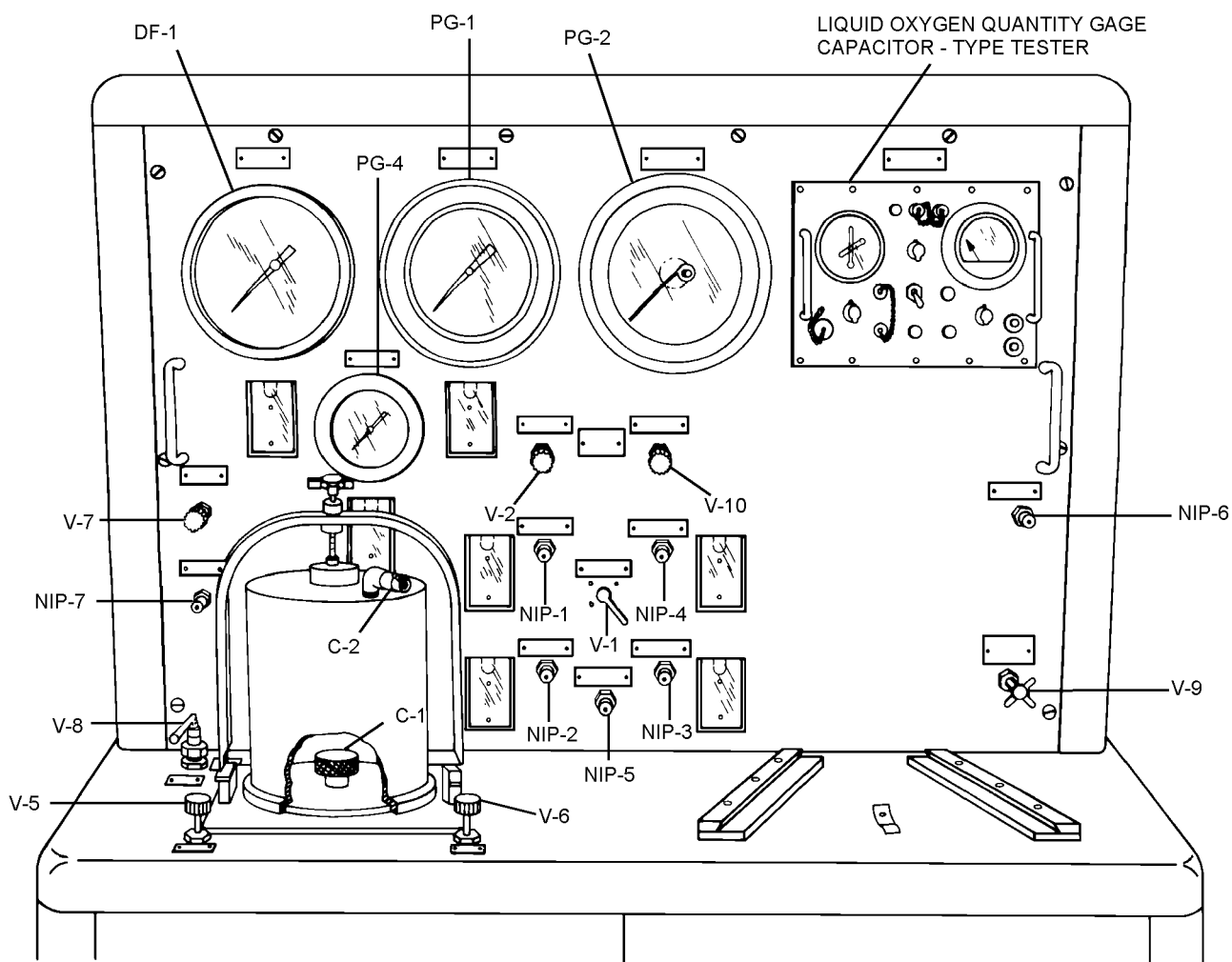
NOTE

Observe gage (DF-1) for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires correct maintenance.

22. Close valve (V-8), open valve (V-5), and disconnect oxygen outlet hose from fitting (C-1).

23. Ensure that all valves on test stand are secured.

24. Connect oxygen outlet hose to fitting (NIP-6). Ensure that valve (V-10) is open and all other test stand valves are closed.



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 – 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 – 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 – 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 – 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 – 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 – 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 – 160 PSIG TEST PRESSURE GAGE		

63-578

Figure 4-9. Test Stand Model 59A120

25. Connect test stand hose to fitting (NIP-5) and fitting (NIP-4).

26. Turn valve (V-1) to the NIP-4 position.

27. Be sure that 1800 to 2000 psi is in the oxygen cylinder of the kit.

28. Pull manual oxygen release. Oxygen pressure on gage (PG-1) shall indicate 45 to 80 psi.

29. Slowly open valve (V-9) to indicate 90 LPM on gage (PG-2). Oxygen pressure shall indicate 45 to 80 psi on gage (PG-1).

NOTE

When needle of cylinder pressure gage is between the E and F of REFILL, pressure is approximately 250 psi.

30. Observe emergency oxygen cylinder pressure gage and allow the system to decrease to 250 psi while maintaining 90 LPM and 45 to 80 psi.

31. Close valve (V-9).

32. With zero flow indicated on gage (PG-2), pressure indicated on gage (PG-1) shall be 45 to 80 psi.

33. Reset reducer assembly.

34. Bleed oxygen pressure from system by opening valves (V-5 and V-2). All pressure is bled when gages (PG-1 and PG-4) indicate 0 psi.

35. Disconnect kit from test stand.

36. Secure test stand.

37. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

38. Recharge emergency oxygen cylinder to 1800 to 2000 psi. Refer to [paragraph 4-38](#) for charging procedures.

4-38. PURGING AND CHARGING EMERGENCY OXYGEN SYSTEM. To purge and charge the emergency oxygen cylinder, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Nitrogen, Type I, Class I, Grade B	BB-N-411
As Required	Aviators Breathing Oxygen, Type I	MIL-O-27210
As Required	Lint-free Cloth, Type II	MIL-C-85043

Support Equipment Required

Quantity	Description	Reference Number
1	Oxygen Purging Electric Heater or equivalent	C5378 (CAGE 96787)
1	Shut-off Valve	—
1	Pressure Regulator	MIL-R-9198A
1	Adapter, Filling (Optional)	21000T130-1 (CAGE 53655)
1	Toggle Reset Tool	Fabricate IAW paragraph 4-69



Servicing of emergency oxygen system is accomplished only after removal of survival kit from aircraft.

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

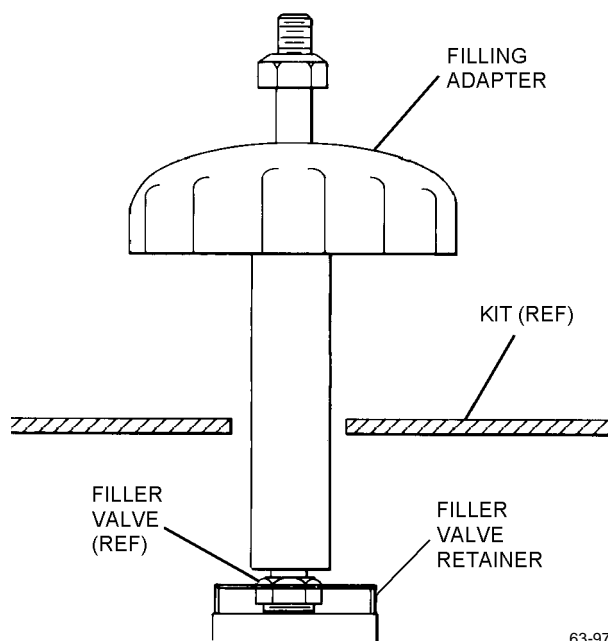
- 1. Remove survival kit in accordance with applicable maintenance manual.

WARNING

If necessary to release pressure in oxygen bottle before purging/filling, pull emergency oxygen lanyard. This releases pressure through reducer/manifold. DO NOT release pressure through filler valve or adapter. Releasing high-pressure oxygen through restriction of filler valve causes heat. Fire or explosion may result.

NOTE

Use of filling adapter on SKU-3/A survival kit is optional.



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Figure 4-10. Filling Adapter

2. Remove cushion assembly from survival kit assembly.

3. Remove oxygen filler valve cap and connect filling adapter to filler valve (figure 4-10).

NOTE

If the emergency oxygen system is contaminated or the cylinder has remained empty for more than 2 hours, purging is required. If an emergency oxygen cylinder does not warrant the purging process, proceed to step 11 for charging sequence.

4. Deplete emergency oxygen cylinder if necessary.

5. Connect nitrogen source to filling adapter/filler valve, and close pressure reducer.

NOTE

If relief valve on oxygen purging electric heater will not allow 100 psi, raise pressure only to allowable limit.

6. Slowly pressurize to 100 psi with nitrogen at temperature of 110° to 130°C (230° to 266°F), using electric heater.

7. Turn off nitrogen source and deplete oxygen cylinder.

8. Repeat steps 6 and 7 twice.

9. With pressure reducer open, turn on nitrogen source and purge for 10 minutes at temperature of 110° to 130°C (230° to 266°F).

10. Turn off nitrogen source and disconnect.

11. Connect oxygen source to filling adapter with suitable pressure regulator and shutoff valve. Reset pressure reducer.

12. Slowly pressurize to 100 psi.

13. Deplete cylinder to 50 psi.

WARNING

Observe filling stages as rapid application of oxygen pressure creates heat which may result in fire or explosion.

Allow no less than 3 minutes for each filling stage and 2-minute intervals for cooling between stages.

NOTE

If kit is to be stored, the emergency oxygen bottle shall be depleted or filled to 200 PSI (when needle on gage bisects the E on REFILL). For shipping, fill or deplete to 25 PSI using the gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with [table 4-3](#) until pressure gage indicates correct pressure for existing ambient temperature. See [table 4-4](#).

15. Secure shut-off valve from oxygen source.

16. Loosen oxygen filler adapter (if installed) until all pressure is bled from high-pressure line. Remove filling adapter.

17. Apply leak detection compound around oxygen gage and reducer. Check for leaks, then wipe connections clean using a lint-free cloth.

Table 4-3. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

Table 4-4. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

18. Reinstall oxygen filler valve cap on filler valve. Filler valve cap should be hand tightened only.

19. Reinstall cushion assembly on survival kit.

20. Reinstall survival kit using applicable maintenance manual.

Section 4-6. Maintenance

4-39. GENERAL.

WARNING

Keep working area clean and free of oil, grease and dirt. Do not attempt to perform any component removal with the oxygen system pressurized.

4-40. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment. Disassemble only to extent required to perform task. Work shall be performed in a clean, dust- and grease-free area.

4-41. TROUBLESHOOTING.

4-42. When troubles or operating malfunctions are encountered, locate probable cause and remedy using [table 4-5](#).

Table 4-5. Troubleshooting

Trouble	Probable Cause	Remedy
Low or zero indication on pressure gage.	System empty.	Charge system in accordance with paragraph 4-38 .
	Defective gage.	Replace gage.
	Leaking components.	Tighten connections or replace.
	Leaking oxygen/communication hose assembly.	Perform leak test in accordance with NAVAIR 13-1-6.3-1.
Relief valve leakage.	Defective relief valve.	Disassemble, remove and replace relief valve and packing.
Relief valve does not operate within tolerance of 120 to 140 psi when simulated aircraft back pressure is applied during test.	Defective or out of adjustment relief valve.	Adjust to meet required specifications. If specifications cannot be met, replace relief valve.
Pull force to actuate emergency oxygen system is not within tolerance of 10 to 30 pounds.	Cable broken.	Replace cable.
	Crushed cable/conduit assemblies.	Replaced cable/conduit assembly.
Emergency oxygen does not actuate when manual release is pulled.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
	Reducer toggle forced beyond vertical (cocked) position, canted or turned.	Reposition toggle.
	Cable balls may be wrapped around reducer toggle and jammed against inside of kit lid.	Inspect manual cable assembly and reposition.
		Inspect and adjust the automatic emergency oxygen release in accordance with paragraph 4-66 .

Table 4-5. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Emergency oxygen does not actuate when automatic release is pulled.	Cable balls may be wrapped around reducer toggle and jammed against inside of kit lid.	Inspect and adjust the automatic emergency oxygen release in accordance with paragraph 4-66 .
	Automatic actuation cable out of adjustment.	Reposition toggle and adjust the automatic emergency oxygen release in accordance with paragraph 4-66 .
	Reducer toggle forced beyond vertical (cocked) position, canted, or turned.	
Emergency lanyard coupling assembly loose.	Broken or missing spring.	Replace spring.
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors. Open or short circuit in oxygen hose wiring.	Perform electrical check in accordance with NAVAIR 13-1-6.3-1.
Kit lid locks fail to release simultaneously.	Lid locks out of adjustment.	Adjust locks in accordance with paragraph 4-65 .
Pull force to actuate kit release mechanism is not within tolerance of 10 to 30 pounds.	Obstructions between upper and lower container mating surfaces.	Remove obstruction.
	Improper folding of liferaft assembly.	Refold liferaft assembly.
No oxygen output pressure with pressure reducer actuated.	Weak or broken spring (27, figure 4-23) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 4-43 and replace spring.
	Pressure reducer out of adjustment.	Adjust pressure reducer in accordance with paragraph 4-64 .
	Defective oxygen gage.	Bleed system; replace oxygen gage.
	Foreign matter in output flow path.	Bleed system; disassemble in accordance with paragraph 4-43 and clean.
	Poppet (17, figure 4-23) does not extend into position.	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet and seat.
Oxygen system output pressure not within 45 to 80 psig limits.	Pressure reducer out of adjustment	Adjust pressure reducer in accordance with paragraph 4-64 .
	Weak or broken poppet spring (16, figure 4-23) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet spring.
	Defective pressure reducer.	Replace reducer.
Pulsating pressure at outlet port.	Bent plunger (28, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace plunger.

Table 4-5. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Oxygen system leaking; low pressure side of reducer.	Defective O-ring (31, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace O-ring.
	Weak or broken spring (16, figure 4-23) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet spring.
Pressure reducer will not shut off.	Bent poppet (17, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet.
	Broken poppet spring (16, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet spring.
	Dirt.	Bleed system; disassemble in accordance with paragraph 4-43 and clean.
	Misaligned seat. (20, figure 4-23)	Bleed system; disassemble in accordance with paragraph 4-43 and replace seat.
	Defective retaining ring (13, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace retaining ring.
Pressure reducer does not meet required flows.	Pressure reducer out of adjustment.	Adjust pressure reducer in accordance with paragraph 4-64 .
	Weak or broken poppet spring (16, figure 4-23) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 4-43 and replace spring.
	Improper assembly of pressure reducer.	Bleed system; disassemble in accordance with paragraph 4-43 and clean.
	Dirty filter assembly (14, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace filter assembly.
Oxygen system leaking; high pressure side of reducer.	Misaligned seat (20, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace seat.
	Bent poppet (17, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet.
	Broken poppet spring (16, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace poppet spring.
	Inverted backup ring (19, figure 4-23).	Bleed system; disassemble in accordance with paragraph 4-43 and replace backup ring.

4-43. DISASSEMBLY.

4-44. Disassemble survival kit to the extent necessary to replace defective components.



Keep working area clean and free of oil, grease, dirt, and dust which may cause fire or explosion when in contact with oxygen.

Do not disassemble any part of emergency oxygen system while system is pressurized.

- 1. Pull emergency oxygen release lanyard or green ring to release pressure in emergency oxygen system.

NOTE

Discard all packings, seals, cotter pins, and Teflon sealing tape removed during disassembly of emergency oxygen system.

Discard all threaded inserts, rivets, rubber pads, seals, molding, or hook and pile tape removed during assembly of the survival kit.

- 2. Disassemble survival kit using index numbers assigned to [figure 4-19 through 4-27](#) as a disassembly sequence. Refer to [paragraph 4-45](#) for disassembly of pressure reducer assembly.

4-45. DISASSEMBLY OF PRESSURE REDUCER ASSEMBLY. The four major areas of disassembly in the pressure reducer assembly ([figure 4-11](#)) are (1) removal of oxygen gage, filler valve, plug, and adapter; (2) removal and disassembly of adjustment assembly; (3) disassembly of high pressure assembly; and (4) disassembly of low pressure assembly. Determine area of malfunction using [table 4-5, Troubleshooting](#), and disassemble only to the extent necessary for corrective maintenance.

Support Equipment Required

Quantity	Description	Reference Number
1	Vise	—
1	Pressure Reducer Tool Set (figure 4-12)	T216D900-1 (CAGE 30941) NIIN 01-100-8928
1	Retaining Ring Pliers	S0100 (CAGE 79136)
1	Retaining Ring Pliers	SL0100 (CAGE 79136)
1	Toggle Reset Tool	Fabricate IAW paragraph 4-69
1	Hex Key, 5/32-Inch	—



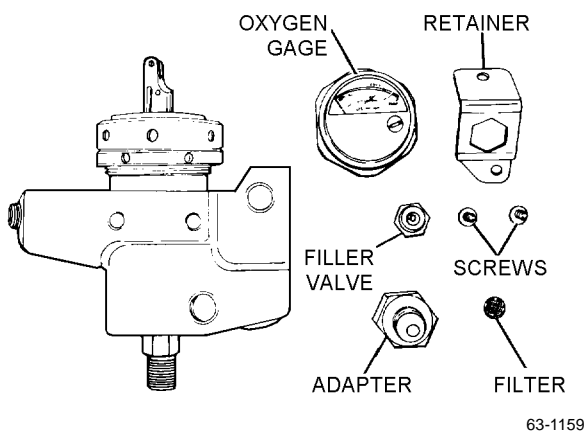
Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in a minute quantity, coming in contact with oxygen can cause explosion or fire. Dust, lint, and fine metal particles are also dangerous.

NOTE

Maintenance personnel are advised to read and thoroughly understand the procedures of each step prior to attempting any maintenance action.

- 1. Remove oxygen gage, filler valve and adapter as follows:
 - a. Remove oxygen gage.
 - b. Remove adapter and discard O-ring.
 - c. Remove two attaching screws and remove filler valve retainer.
 - d. Remove filler valve assembly.

e. Remove filter assembly.



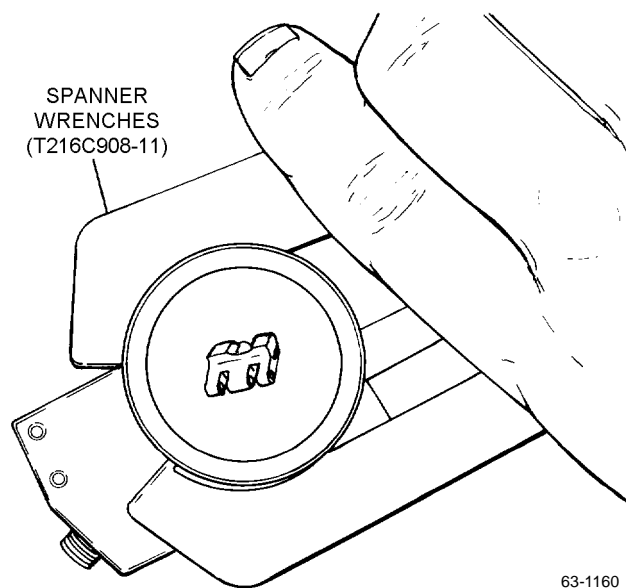
Step 1e - Para 4-45

f. Remove plug, using a 5/32-inch hex key.

g. Replace worn or defective parts as necessary.

2. Remove and disassemble adjustment assembly as follows:

a. Position oxygen pressure reducer assembly with cap adjustment side up. Loosen lock ring using spanner wrench (T216C908-11) in a clockwise rotation while holding the adjusting cap with the second spanner wrench.

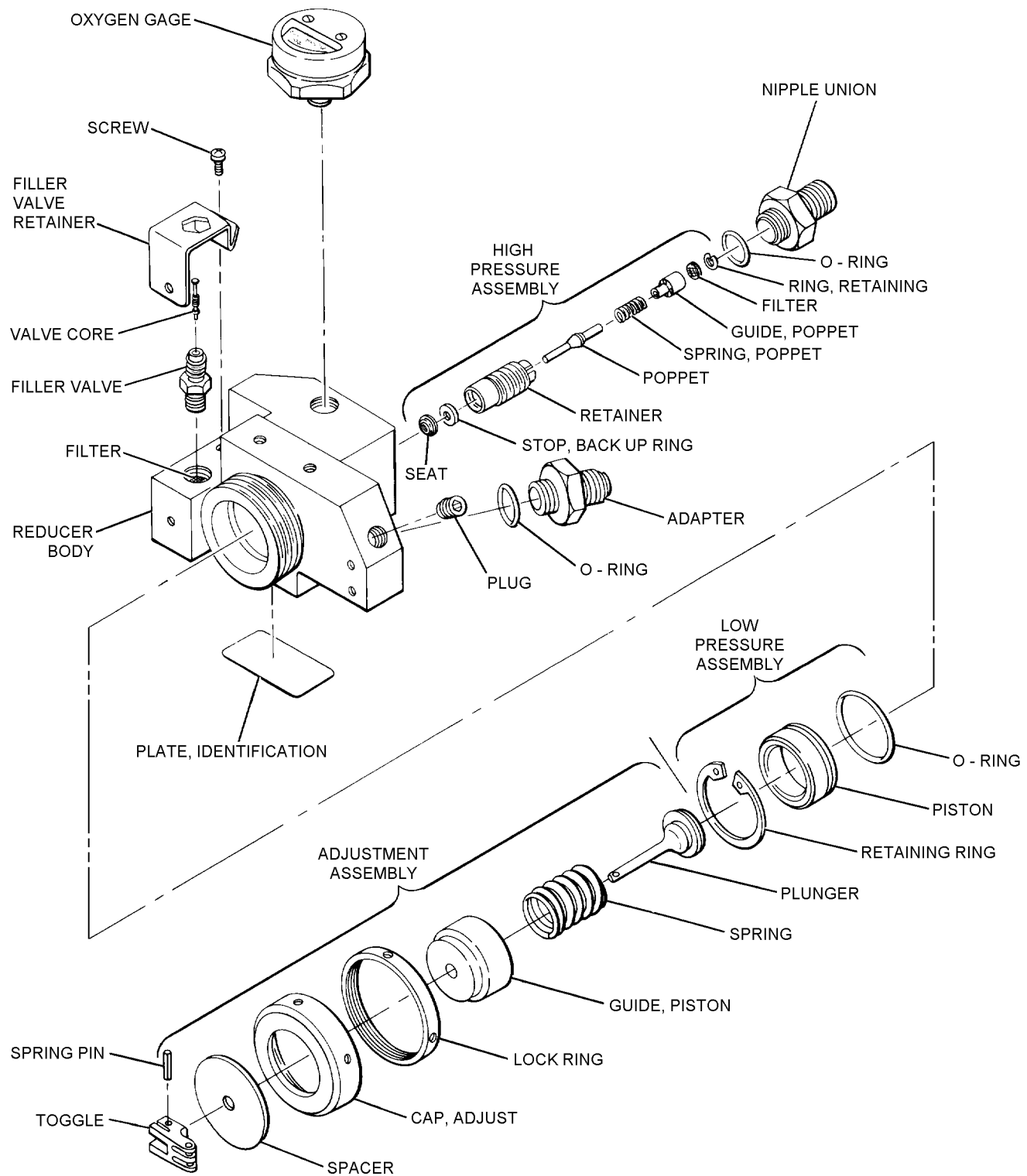


Step 2a - Para 4-45

NOTE

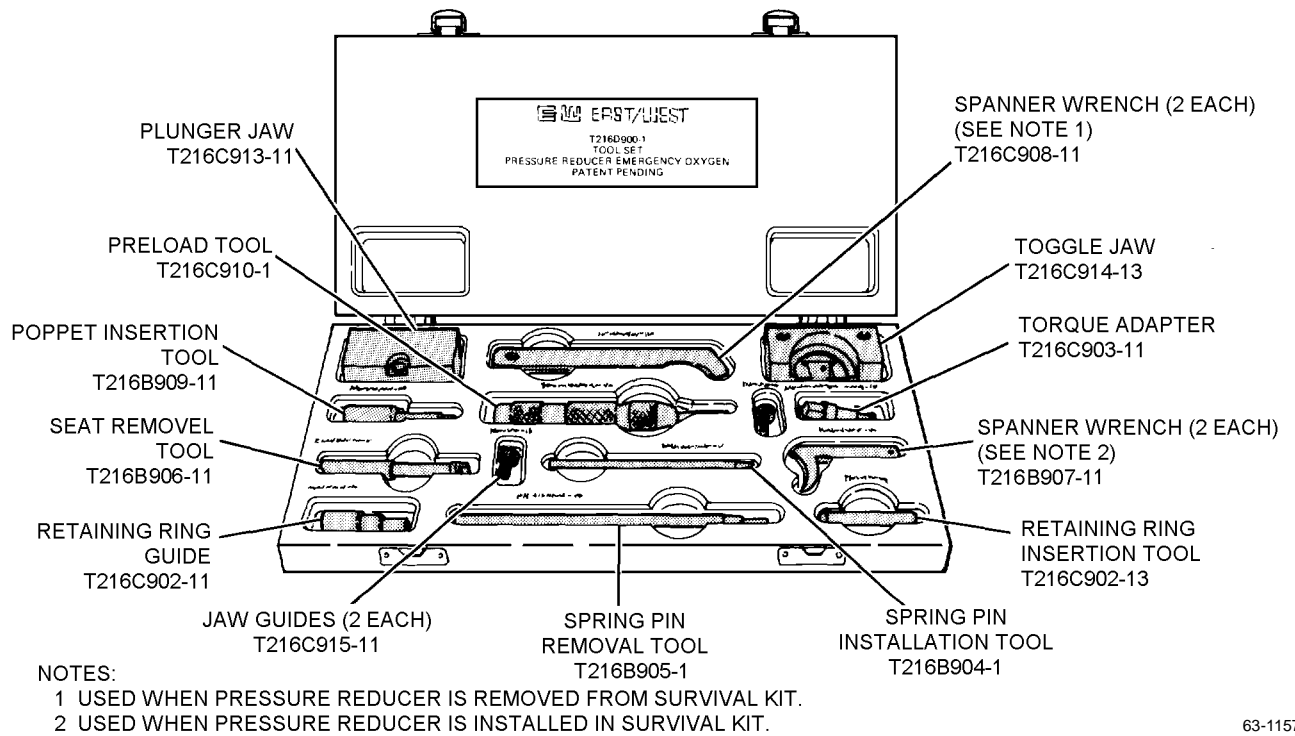
To permit hand removal of the adjustment assembly ensure that toggle is in upright (OFF) position. To obtain desired position, insert toggle reset tool in slot on either side of toggle and twist.

b. Remove adjustment assembly from pressure reducer by rotating in a counterclockwise direction.



63-1158

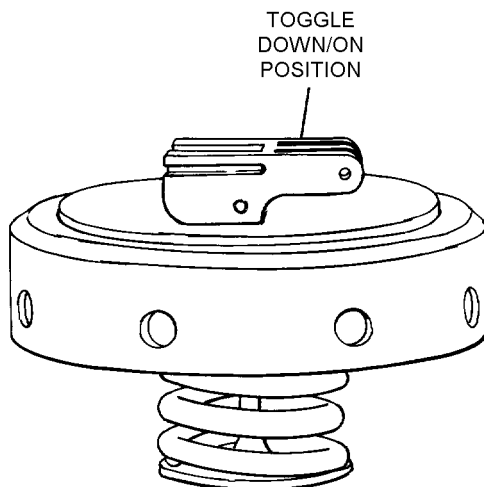
Figure 4-11. SKU-3/A Reducer Assembly



63-1157

Figure 4-12. Emergency Oxygen Pressure Reducer Tool Set

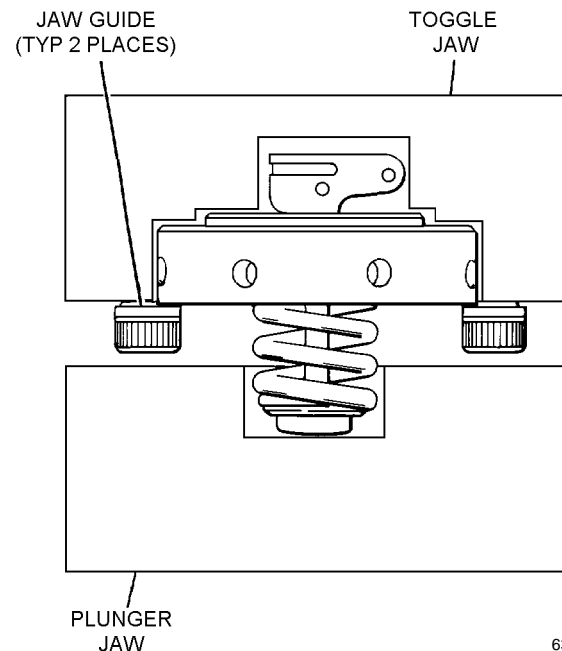
c. Using toggle reset tool, trip/rotate toggle to down (ON) position to reduce tension on toggle and plunger spring assembly.



63-1161

Step 2c - para 4-45

e. Position adjustment assembly in the toggle and plunger jaws.



63-1162

Step 2e - Para 4-45

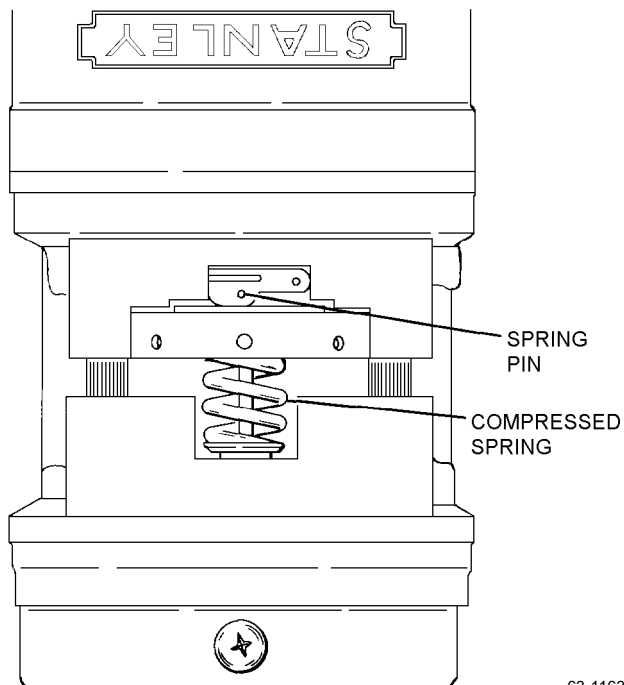
d. Using appropriate Allen key, screw jaw guides into the two threaded holes in the toggle jaw.

f. Place toggle and plunger jaws in a vise. Align fixture and tighten to compress spring and relieve tension on the spring pin and toggle attachment.

NOTE

Spring pin is the attachment point of components.

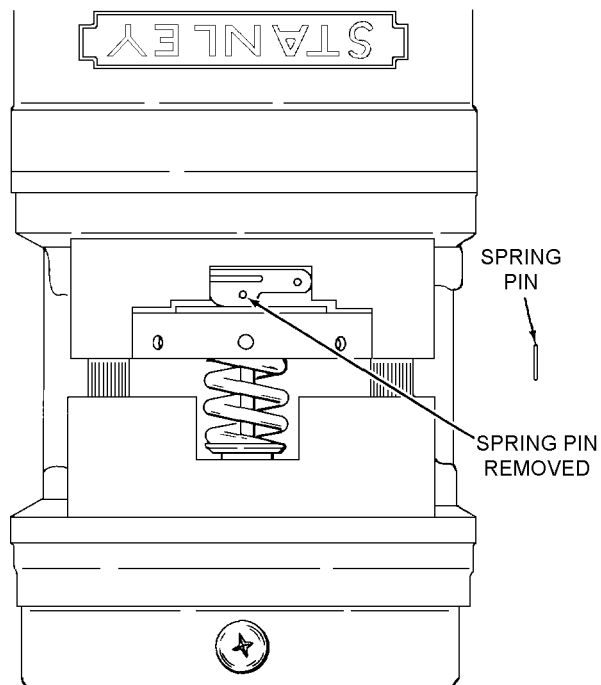
h. Loosen vise jaws to relieve pressure. Remove adjustment assembly from toggle and plunger jaws and disassemble. Replace worn or defective parts as necessary.



63-1163

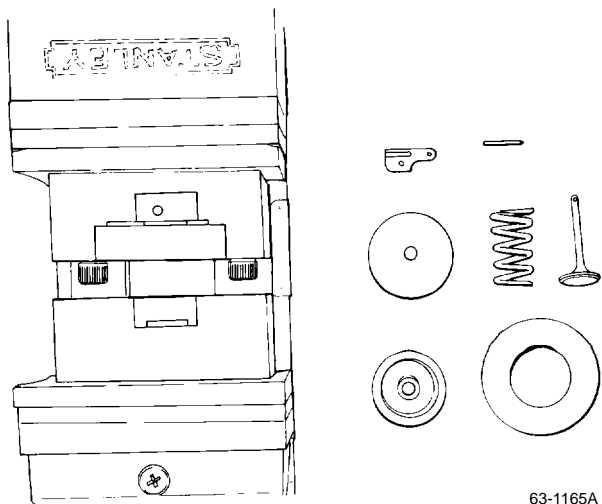
Step 2f - Para 4-45

g. Using spring pin removal tool, punch out spring and discard.



63-1164

Step 2g - Para 4-45



63-1165A

Step 2h - Para 4-45

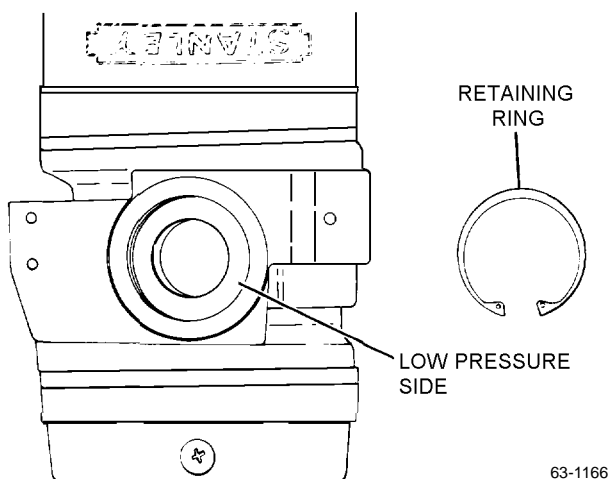
3. Disassemble low pressure assembly as follows:

a. Position oxygen pressure assembly with adjustment side or low pressure side up and secure.

NOTE

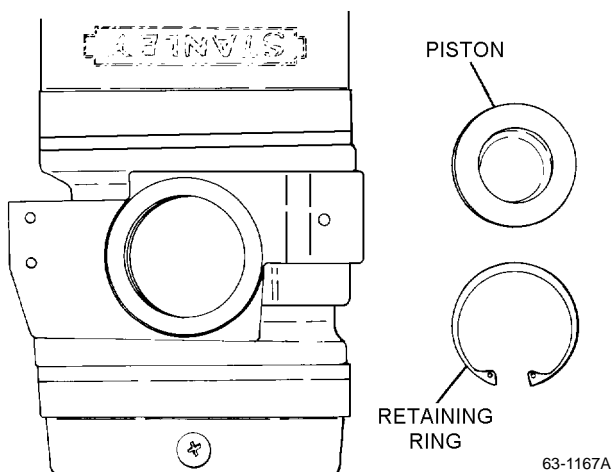
If adjustment assembly has not been removed, remove in accordance with [step 2](#).

- b. Remove retaining ring, using retaining ring pliers (SL0100) or equivalent.



Step 3b - Para 4-45

- c. Remove piston from reducer body bore, using retaining ring pliers with points pressed against piston skirt.



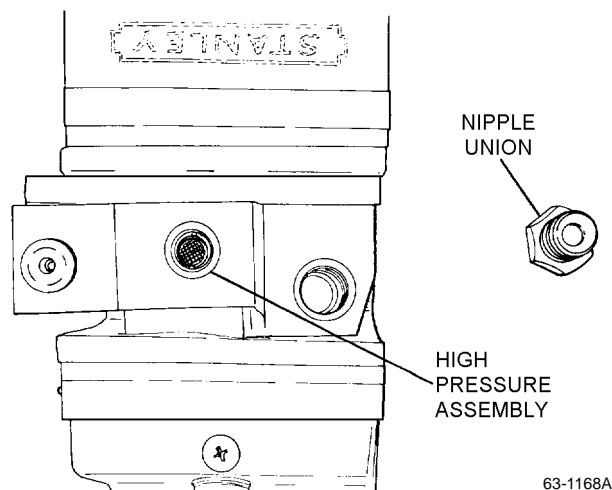
Step 3c - para 4-45

- d. Remove and discard O-ring from piston.

4. Disassemble high pressure assembly as follows:

- a. Position and secure oxygen pressure reducer with high pressure assembly facing up.

- b. Remove nipple union with appropriate wrench.



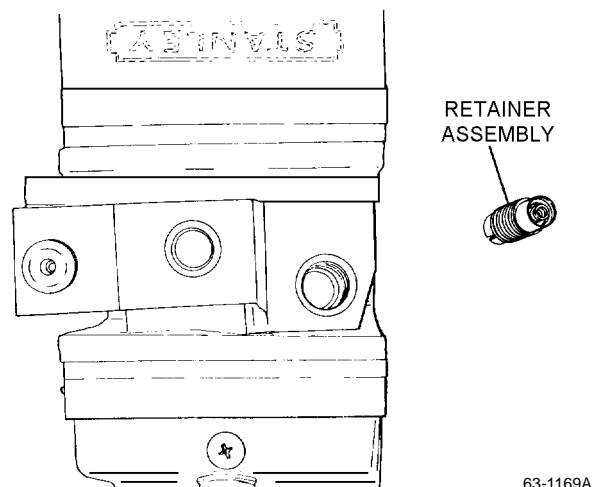
Step 4b - Para 4-45

- c. Remove and discard O-ring from nipple.

NOTE

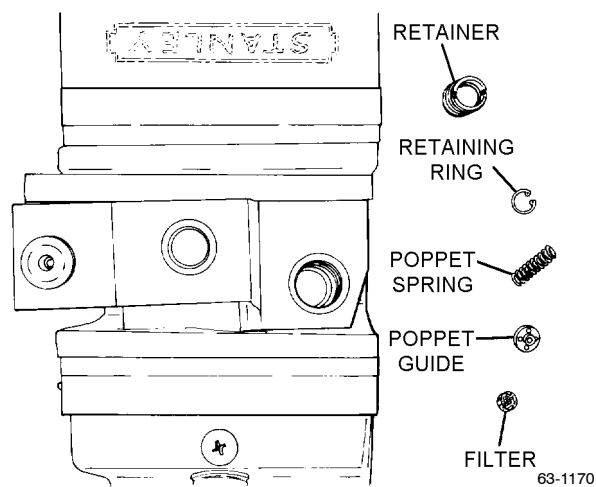
The retaining ring, filter, poppet, guide, and spring usually withdraw from the reducer assembly housing still connected to the retainer unit.

- d. Using torque adapter, remove retainer from reducer body, by rotating counterclockwise.



Step 4d - Para 4-45

- e. Remove retaining ring, using retaining ring pliers (S0100) or equivalent.
- f. Remove filter, poppet guide, and poppet spring from retainer.



Step 4f - Par 4-45

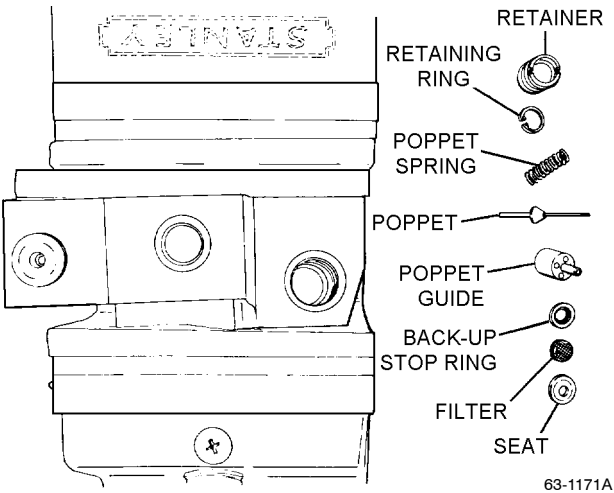
NOTE

- In some instances seat will not come out with stop, but will remain pressed in reducer sealing groove. Should this occur, follow procedure in step h, and i to remove seat without damage to reducer body.
- g. Invert reducer body and remove poppet, back-up stop ring, and seat.
 - h. (Use only if seat must be dislodged) Insert seat removal tool into reducer body.



Do not cut into reducer body.

- i. (Use only if seat must be dislodged) Rotate seat removal tool until seat is loosened from reducer sealing groove.
- j. (Use only if seat must be dislodged) Visually inspect seating area inside reducer body to ensure seat has been dislodged and removed. Also ensure removal of any remaining foreign matter.
- k. Replace worn or defective parts as necessary.



Step 4k - Para 4-45

4-46. CLEANING.

- 4-47. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.
- 4-48. **CLEANING CUSHIONS AND FABRIC COMPONENTS.** To clean seat cushions and all fabric components, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16741 NIIN 00-282-9699
As Required	Lint-free Cloth, Type II	MIL-C-85043

NOTE

- If using cleaning compound (MIL-C-25769), combine one part compound to three parts water. If using general purpose detergent, follow directions on container.
1. Prepare detergent or cleaning compound (MIL-C-25769) solution.
 2. Apply solution to soiled area with spray or sponge.
 3. Allow solution to remain on surface for a few minutes, then scrub with soft brush or cloth.
 4. Rinse surface thoroughly with water; wipe with cloth or sponge.

NOTE

- Repeat steps 1 through 4 until material is clean.
5. Repeat step 4 until material is free from all solution.

6. Allow material to dry thoroughly.

4-49. INSPECTION.

4-50. Inspect the disassembled parts for distortion, corrosion, and other damage in accordance with table 4-6. Inspect survival items in accordance with NAV-AIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

4-51. REPAIR AND REPLACEMENT.

4-52. Repair or replace parts of the survival kit assembly as follows:

4-53. REPAIR. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs performed shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

4-54. Repair of Cushion Assemblies. Repair of cushion assemblies is limited to sewing of loose or open seams, broken stitches, and small rips and tears.

4-55. Repair/Replacement of Oxygen Gage Window.

Materials Required

Quantity	Description	Reference Number
1	Window, Observation	308411 NIIN 00-059-6401
As Required	Adhesive, Cyanoacrylate or Adhesive, Cellulose Nitrate	MIL-A-46050 NIIN 00-142-9193 MIL-A-388A P/N A-A-529 NIIN 00-270-8150

1. Ensure both surfaces to be bonded are clean and dry.

WARNING

Avoid adhesive contact with skin and eyes.

NOTE

Cure time for adhesive MIL-A-46050 is one hour after parts are mated together.

Cure time for adhesive A-A-529 is 24 hours after parts are mated.

2. Apply small amount of adhesive around edge of window opening in lid assembly and on rim of window.

3. Bond both surfaces together and hold until adhesive is set.

4-55A. Repair/Replacement of Upper Oxygen Cable Protective Rubber Plug/Sheeting.

Materials Required

Quantity	Description	Reference Number
As Required	Adhesive, 3M Scotch-Grip, Rubber and Gasket	EC-847
As Required	Isopropyl Alcohol	TT-I-735
As Required	Scotch-Brite or 220 Grit Sandpaper	L-P-0050
As Required	Applicator, Brush	7237T2
1	Gloves, Butyl Rubber or Ethylene Vinyl Alcohol	—
1	Goggles, Vented	—

1. Lightly scuff the fiberglass lid around the 0.060 hole where the rubber sheet will be adhered with Scotch-Brite or sandpaper to increase the surface area.

2. Wipe surface area to be cleaned with isopropyl alcohol to ensure removal of loose debris, grease, and oil.

WARNING

Avoid eye and skin contact with adhesive. Do not ingest and avoid prolonged breathing of vapors. Use adhesive in well ventilated area.

NOTE

For best results, the temperature of the adhesive and surfaces to be bonded should be at least 65 °F (18 °C). Cure time for EC-847 adhesive is 6 hours.

3. Using the applicator brush, apply a thin layer of adhesive to both surfaces. While adhesive is still wet or aggressively tacky, bond both surfaces together.

4. Hold in place for 15 minutes to set and allow a minimum of 6 hours to cure at room temperatures.

4-56. REPLACEMENT. All individual components that fail to pass inspection shall be replaced except where repair procedures are indicated. Refer to source code listing (SM&R Code) in Numerical Index of Illustrated Parts Breakdown for guidance in determining replaceable components. All adjustable components or assemblies that fail their respective tests shall be readjusted and retested for required specifications.

Table 4-6. Inspection

Component	Task
Survival Kit (Figures 4-19 and 4-20)	
Cushion Assembly	Inspect for fabric damage and loose or broken stitching.
	Ensure button and socket are firmly attached to cushion assemblies.
	Check for wear or breakdown of cushion foam and replace as required.
Dropline Assembly	Inspect boot for fabric damage and loose, broken or frayed stitching.
	Check dropline for material damage, loose, frayed or broken stitching.
Harness Assembly	Check harness assembly for retention pin damage and presence of locknut.
	Inspect aft-most hole serving as attachment for lug pin for elongation.
	Check webbing for wear, damage and for frayed, broken or loose stitching.
	Inspect adapter for obvious damage, corrosion, and wear.
	Check force required for adjuster to release webbing. <u>Maximum pull force on yellow webbing tab shall not exceed 8 lbs.</u>
Release Handle Assembly	Check molded grip for cuts and breaks.
Liferaft Cover	Examine for damaged fabric and loose, broken or frayed stitching.
Equipment Container Assembly	Check slide fastener for security of attachment and trouble-free operation.
	Inspect container material for damage and for loose, broken or frayed stitching.
Survival Items	Inspect in accordance with NAVAIR 13-1-6.5.
Lid Assembly (Figure 4-21)	
Lid Assembly	Inspect for cracks, damage to fiberglass and attached extruded metal lip.
Pile Tape Fasteners	Check oxygen release ring assembly pile tape retainer for secure attachment to fiberglass lid.
Snap Fastener	Inspect snap fastener studs and bolts for defects, corrosion, and secure attachment to lid.
Plug and Cap Assembly	Inspect chain, plug and cap for damage.
	Ensure that chain is securely riveted to plug and cap.
Carrying Handle	Check webbing for wear, damage, and for frayed, broken or loose stitching.

Table 4-6. Inspection (Cont)

Component	Task
Lid Assembly (Figure 4-21) (Cont)	
Oxygen Cylinders	Inspect end fittings for damage.
	Check cylinders for bulges, cracks, nicks, gouges or scratches which penetrate metal.
Manual Oxygen Release	Inspect handle and cable for obvious defects.
Automatic Oxygen Release	Check cable housing for obvious damage and secure attachment to conduit.
	Inspect knurled end fitting.
	Inspect coupling assembly for spring security.
	Ensure that the coupling assembly has not separated from the rest of the cable.
Cable Assemblies	Check balls for secure attachment on respective cables.
	Examine cables for deformation, broken strands or other obvious defects.
	Check conduits for loose or cracked joints, cracked tubing, flattened, dented or out of round tubing diameters.
Check Valve	Inspect for damaged threads and rounded hexagon flats.
Lid Latches	Check for damage and misalignment.
Manifold Assembly (Figure 4-22)	
Check Valve	Inspect for damaged threads and rounded hexagon flats.
Relief Valve	Inspect for damaged threads and rounded hexagon flats.
Manifold Body	Inspect manifold for thread damage.
Reducer Assembly (Figure 4-23)	
Oxygen Gage	Check gage for broken or missing glass and broken or jammed needle.
Filler Valve Assembly	Inspect for damaged threads, rounded hexagon flats and condition of valve core.
Toggle	Visually inspect toggle resetting slot for galling. Examine pinholes for wear and damage.
Body	Check for gouges and other obvious damage. Inspect threads for damage.
Container Assembly (Lower) (Figure 4-24)	
Lower Container Assembly	Check for cracks and damage to fiberglass and attached extruded metal lip. Ensure that extruded metal lip is secured to fiberglass and there is no separation between parts. If fiberglass is cracked, replace component.
Handle Protector	Examine pad for general condition and security of attachment.

Table 4-6. Inspection

Component	Task
Container Assembly (Lower) (Figure 4-24) (Cont)	
Radio Bracket Assembly	Check bracket for secure attachment to container. Examine hook and pile tapes for security of attachment.
Pile Tape	Check all tape fasteners for secure attachment to fiberglass container.
Pad	Examine pad for general condition and security of attachment.
Lock Assemblies (Figures 4-25 and 4-26)	
Cover	Check for distortion and cracks in area of holes.
All Locknuts and Nipples	Inspect for cracks and thread damage.
	Check for rounded corners of hexagon flats.
Housing	Inspect holes and threads for damage.
Slide	Check slides for distortion and for damage to ends which engage lid latches.
Conduits and Cables	Check for broken, bent or crushed conduits.
	Inspect cables for damaged or broken strands; check security of terminal balls on cables.
Lid Lock Release Assembly (Figure 4-27)	
Cover	Check for distortion and cracks in area of holes.
Housing	Inspect holes and threads for damage.
Lid Lock Release	Check for damage, corrosion or any other defects.

4-57. (East/West Only) Replacement of Lapbelt

Adjuster. To replace missing or damaged lapbelt adjuster on the restraint harness, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Adjuster, Lapbelt	184C100-1 (CAGE 30941)
As Required	Sealing Compound, Locking and Retaining, Grade A	MIL-S-22473 (Note 1)

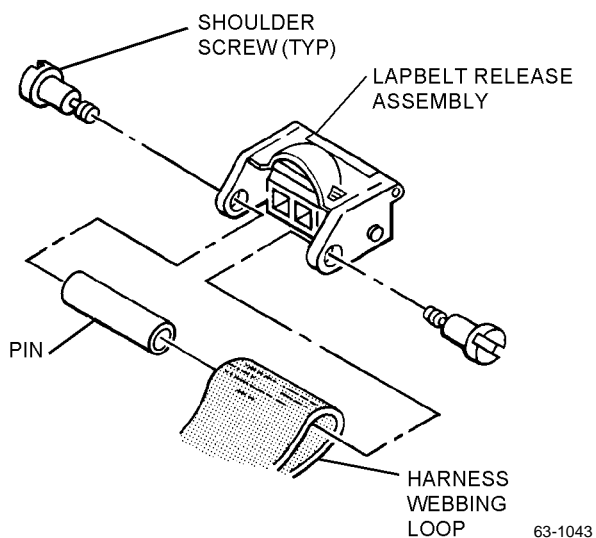
Notes: 1. Use any contrasting color.

NOTE

Replacement procedures can be used on both right and left restraint harness assemblies.

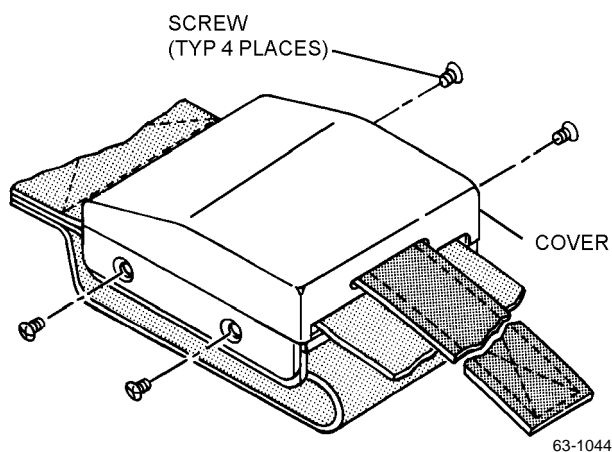
1. Remove existing lapbelt adjuster from restraint harness as follows:

a. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing, and slide pin out of harness webbing loop. Retain all parts.



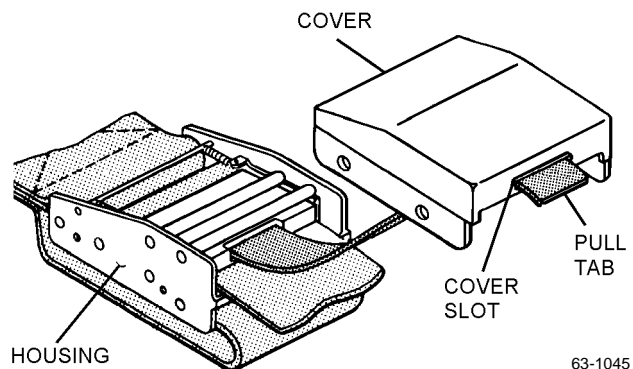
Step 1a - Para 4-57

b. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



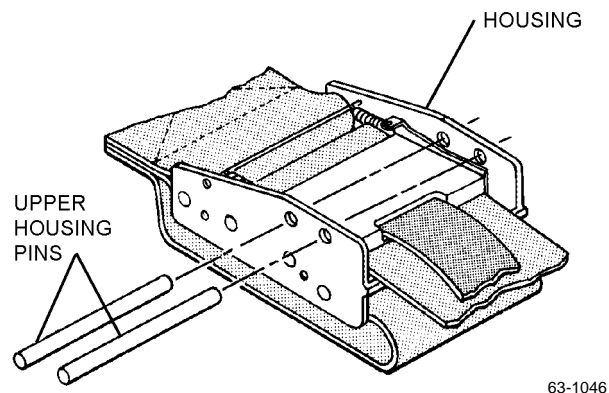
Step 1b - Para 4-57

c. Remove cover from lapbelt adjuster housing, and slide pull tab through cover slot.



Step 1c - Para 4-57

d. Slide upper housing pins out of housing.



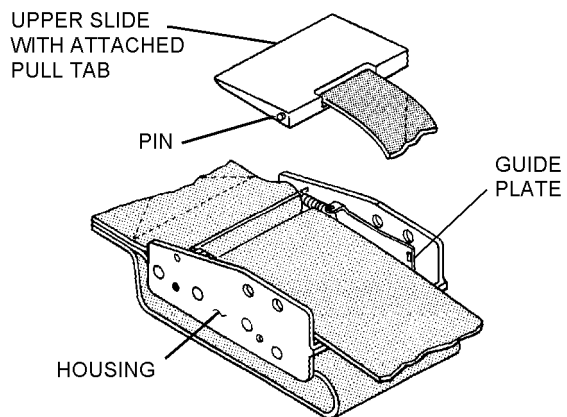
Step 1d - Para 4-57

NOTE

Slides are held to guide plates by pins. Pull slide up so guide plates are above edge of housing, and rotate slide out of guide plates.

NAVAIR 13-1-6.3-2

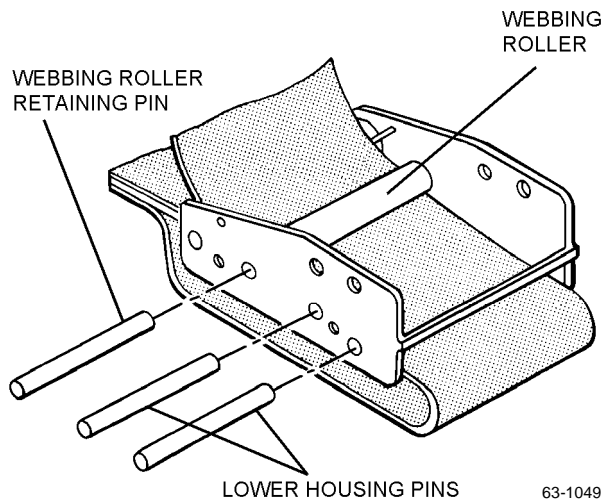
e. Remove upper slide with attached pull tab.



63-1047

Step 1e - Para 4-57

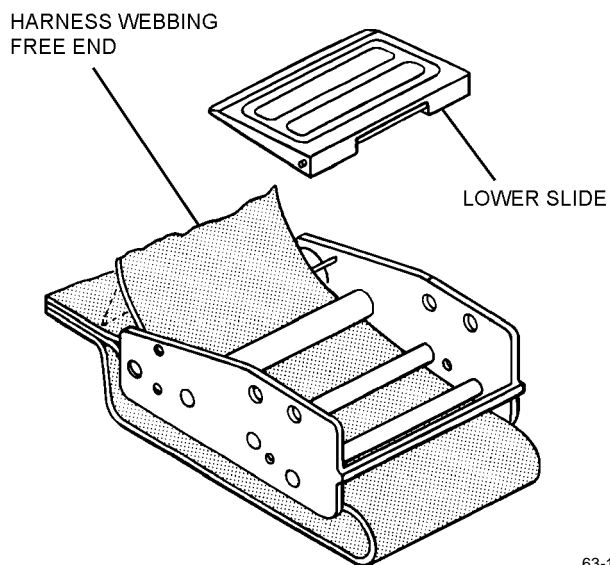
g. Position guide plates up and out of way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



63-1049

Step 1g - Para 4-57

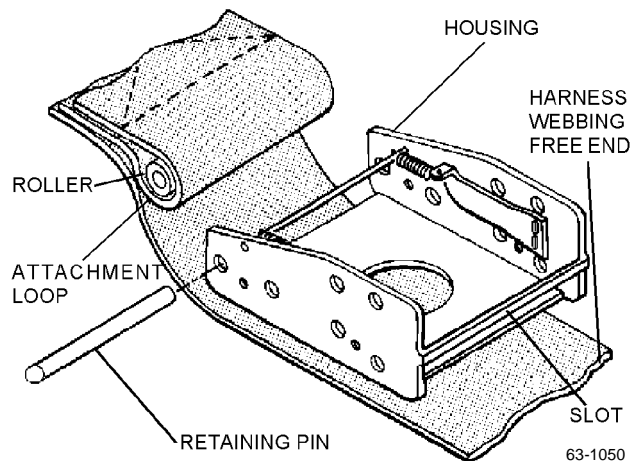
f. Lift free end of harness webbing, and remove lower slide.



63-1048

Step 1f - Para 4-57

h. Pull free end of harness webbing through in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



63-1050

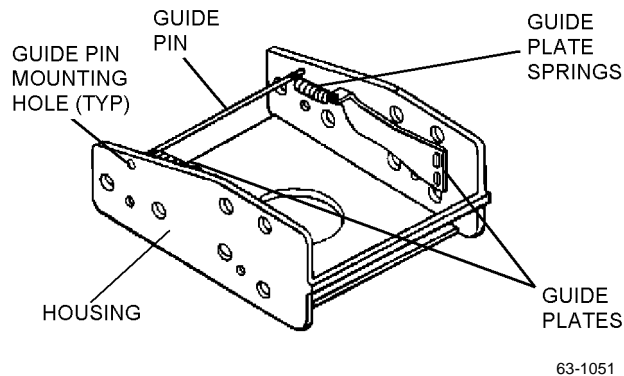
Step 1h - Para 4-57

2. Install new lapbelt adjuster as follows:

NOTE

The six pins (two retaining and four housing) are interchangeable. The two rollers are interchangeable.

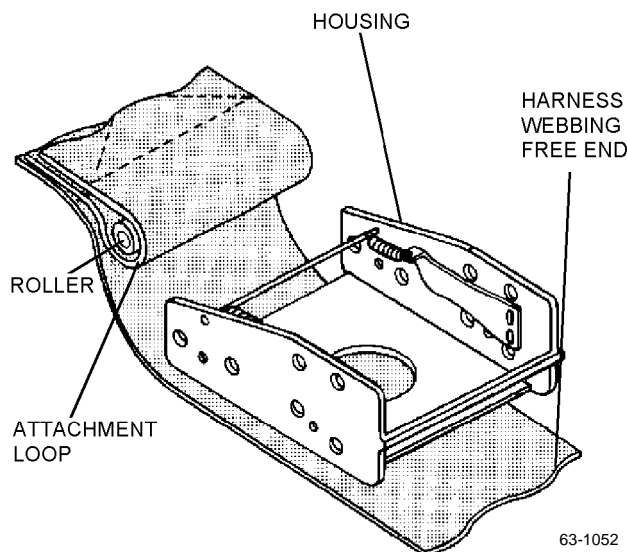
a. If required, slide guide plate springs onto guide pin; ensure that guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



63-1051

Step 2a - Para 4-57

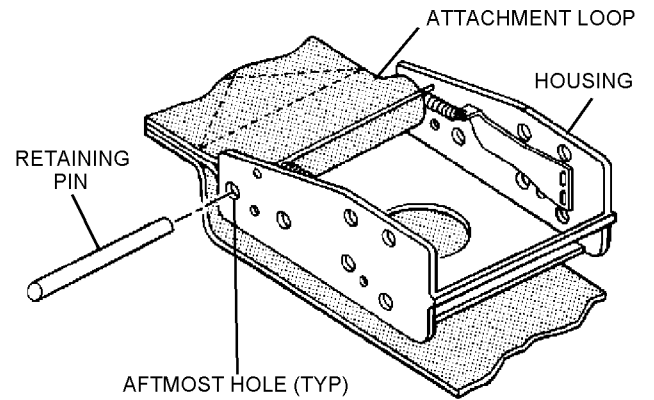
b. Insert roller into attachment loop of harness webbing. Place adjuster housing on top of free end of harness webbing so that aft end of housing faces attachment loop.



63-1052

Step 2b - Para 4-57

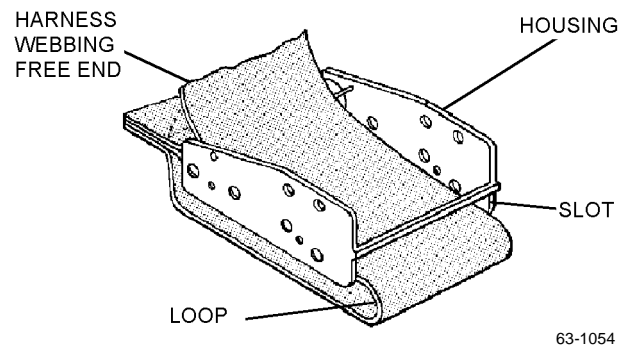
c. Position housing onto attachment loop and roller. Align hole through roller with aftmost holes in housing, and install retaining pin.



63-1053

Step 2c - Para 4-57

d. Fold free end of webbing back toward housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.

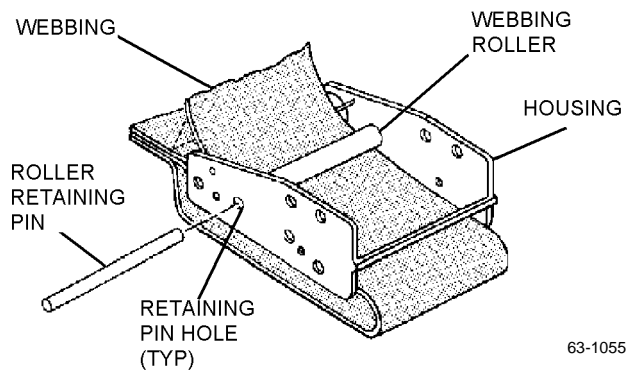


63-1054

Step 2d - Para 4-57

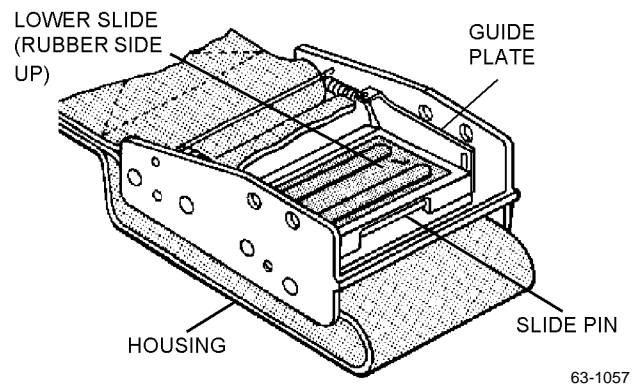
NAVAIR 13-1-6.3-2

e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing, and insert roller retaining pin.



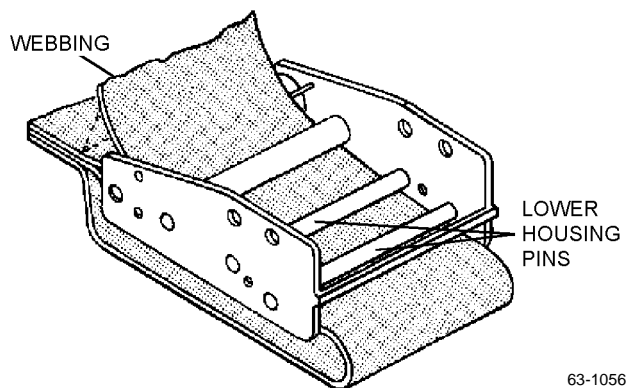
Step 2e - Para 4-57

g. Position guide plates into housing on top of lower housing pins; install lower slide rubber side up. Ensure that slide pin is correctly positioned into lower slots of guide plates.



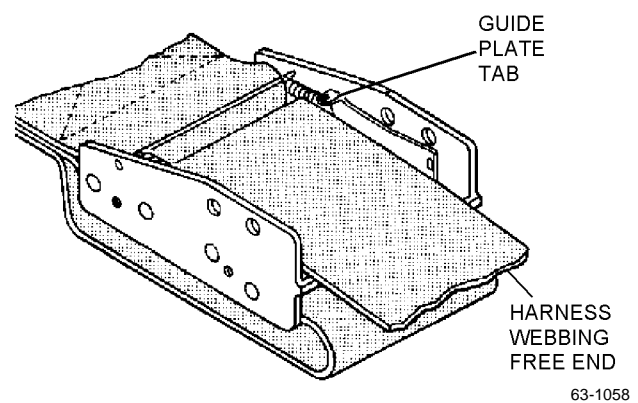
Step 2g - Para 4-57

f. Insert lower housing pins; ensure that pins are resting on top of webbing.



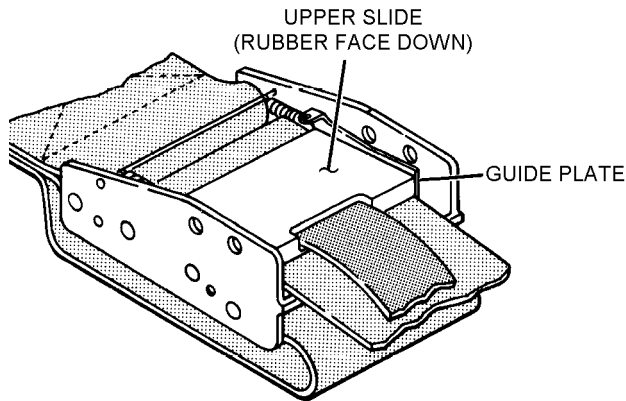
Step 2f - Para 4-57

h. Position harness webbing free end under tabs of guide plates, and lay webbing down over lower slide.



Step 2h - Para 4-57

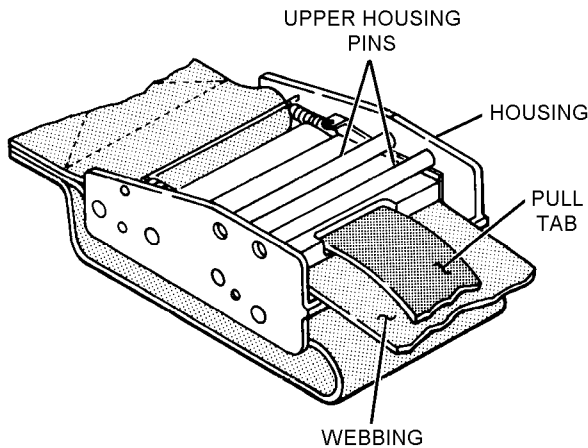
i. Install upper slide, rubber face down. Ensure that lower slide does not come out of place. Ensure that slide pins sit securely in slots of guide plates.



63-1059

Step 2i - Para 4-57

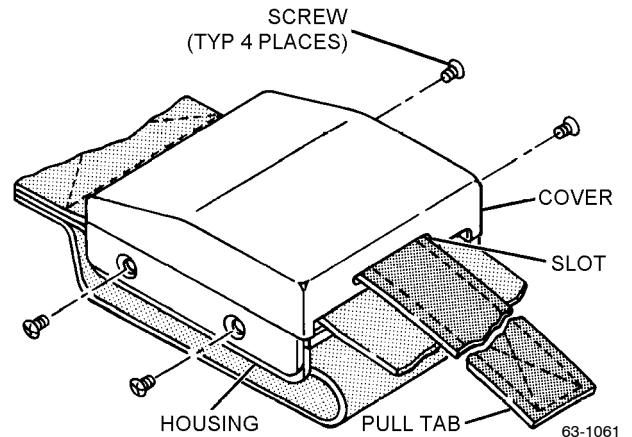
j. Install upper housing pins. Ensure that slides operate correctly; pull on pull tab to check simultaneous movement of slides. Webbing shall slide with ease through adjuster in either direction.



63-1060

Step 2j - Para 4-57

k. Insert pull tab from inside out through slot in cover. Place cover on housing and align four screw holes. Apply sealing compound to threads of four screws, and secure cover to housing.



63-1061

Step 2k - Para 4-57

3. Apply sealing compound to threads of two shoulder screws, and install lapbelt release assembly removed in [step 1a](#).

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

4-58. Deleted.

Pages 4-57 thru 4-60 - Deleted.

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4-59. ASSEMBLY.**NOTE**

Apply the tamper dot on the oxygen hose assembly fitting in a manner which provides easy identification for inspection purposes when seat kit is installed in seat.

Use any contrasting color when applying tamper dots to oxygen fittings.

4-60. Assemble using index numbers of figure 4-19 through 4-27 for reference. When applying sealing compound to threaded parts, first clean contaminants from threads using clean cloth moistened with clean water. Apply sealing compound to 50% of the threads of applicable parts. Refer to Appendix B and ensure all nuts and fittings are properly torqued. After all nuts and fittings are properly torqued, apply tamper dots to oxygen fittings shown in figures 4-19 through 4-27. Use lacquer MIL-L-7178, Fe, St, 595.

Materials Required

Quantity	Description	Reference Number
As Required	Krytox 240 AC, Type III	MIL-G-27617 NIIN 00-961-8995
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Heptane	—
As Required	Solid Film Lubricant	5306 (CAGE 85932)
As Required	Thread Locking Compound	VC3 (CAGE 04866) NIIN 00-163-5792

Materials Required (Continued)

Quantity	Description	Reference Number
As Required	Adhesive	EpoxyLite 8751 (CAGE 11147)
As Required	Adhesive	EC847 (CAGE 76381)
As Required	Adhesive, Type I, Class 2	MIL-A-46050
As Required	Adhesive, Polychloroprene	MIL-A-5540

1. Assemble pressure reducer assembly in accordance with paragraph 4-61.

NOTE

Standard torque values apply to nuts and fittings except for the following:

The pressure reducer (18, figure 4-23) is torqued to 32 to 35 lb-in after assembly. In the oxygen hose assembly (NAVAIR 13-1-6.3-1), the inlet tubing connector is torqued to 80 to 100 lb-in; the outlet tubing connector is torqued to 100 to 125 lb-in.

2. Assemble survival kit in reverse order of disassembly. Refer to paragraph 4-43.

3. Purge and charge emergency oxygen system in accordance with paragraph 4-38.

4. Perform functional check of emergency oxygen system in accordance with paragraph 4-37.

5. Adjust in accordance with [paragraphs 4-62 through 4-66](#) as necessary.

4-61. ASSEMBLY OF PRESSURE REDUCER ASSEMBLY. The following procedures assemble the reducer assembly in four major operations: assembly of the high pressure assembly; assembly of low pressure assembly; assembly and preadjustment of the adjustment assembly; and assembly of oxygen gage, filler valve, adapter, and plug. It is imperative that the following assembly sequence be followed if the entire reducer; assembly has been disassembled. See [figure 4-13](#) and proceed as follows:

Support Equipment Required

Quantity	Description	Reference Number
1	Vise	—
1	Pressure Reducer Tool Set (see figure 4-14)	T216D900-1 (CAGE 30941) NIIN 01-100-8928
1	Retaining Ring Pliers	S0100 (CAGE 79136)
1	Retaining Ring Pliers	SL0100 (CAGE 79136)
1	Torque Wrench 0-150 in-lb	TE-6FUA (CAGE 55729) or Equivalent
1	Toggle Reset Tool	Fabricate IAW paragraph 4-69

Materials Required

Quantity	Description	Reference Number
1	Krytox 240 AZ Type I	MIL-G-27617
As Required	Tape, Anti-seize	MIL-T-27730
As Required	Thread Locking Compound	VC-3 (CAGE 04866)
As Required	Plastic Bag	MIL-B-117
2	O-Ring	MS9068-012
1	O-Ring	MS28775-117
1	Pin, Spring	MS171435
1	Filter	204B419-11



Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in a minute quantity, coming in contact with oxygen can cause explosion or fire. Dust, lint, and fine metal particles are also dangerous.

NOTE

Maintenance personnel are cautioned to read and thoroughly understand each step prior to attempting any maintenance action.

Discard and replace all packings, seals, cotter pins, and Teflon sealing tape removed during disassembly of emergency oxygen system.

All complete assemblies not immediately being returned to service shall be sealed in plastic bags with all external fittings properly capped.

- 1. Assemble high pressure assembly as follows:

NOTE

If the entire reducer assembly has not been disassembled it is necessary to remove the adjustment assembly and low pressure assembly to correctly perform the following assembly procedures.

- a. Ensure that the adjustment assembly has been removed in accordance with [paragraph 4-45](#).
- b. Ensure that the low pressure assembly has been removed in accordance with [paragraph 4-45](#).
- c. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.
- d. Position retainer with threaded side down.

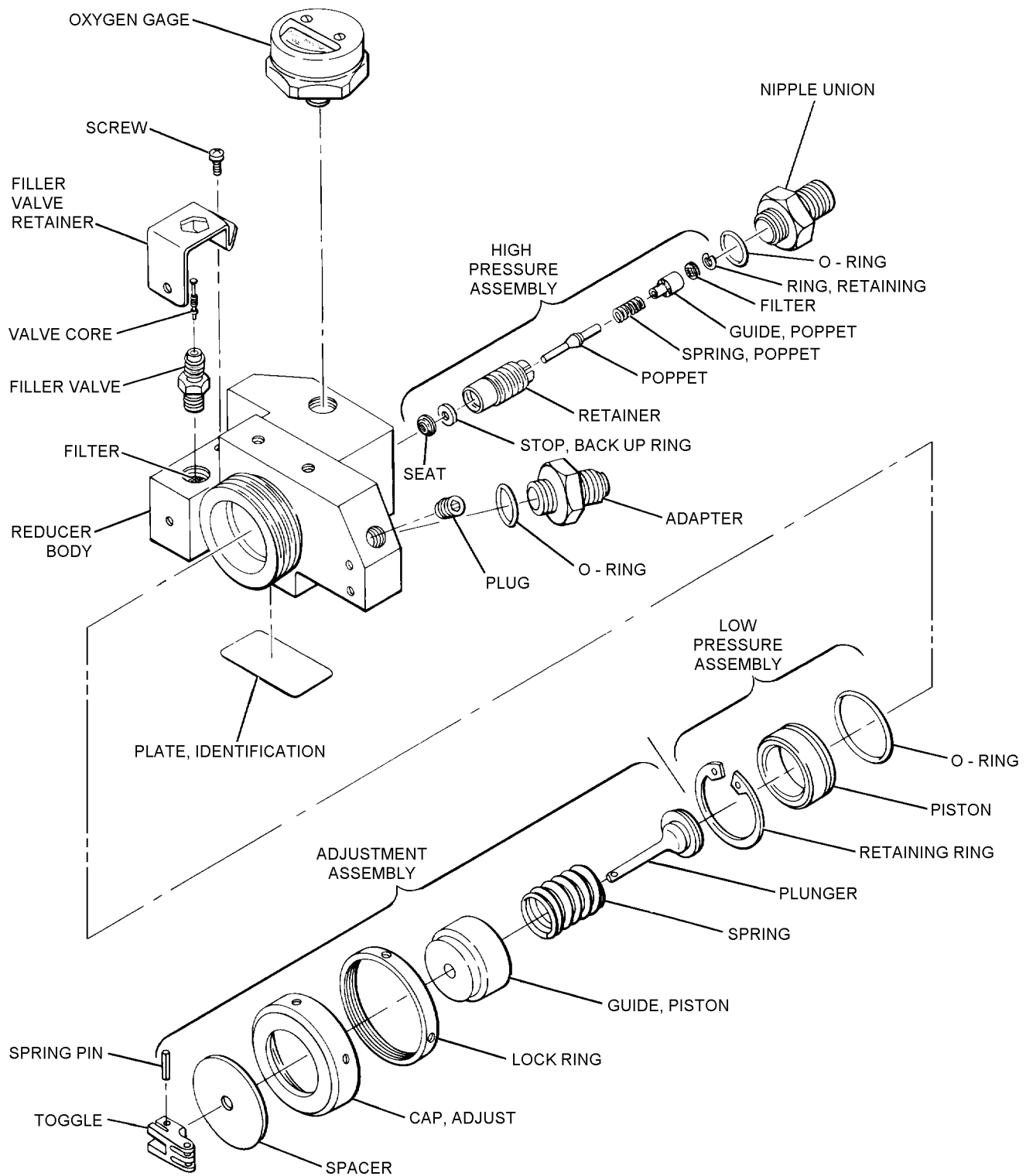
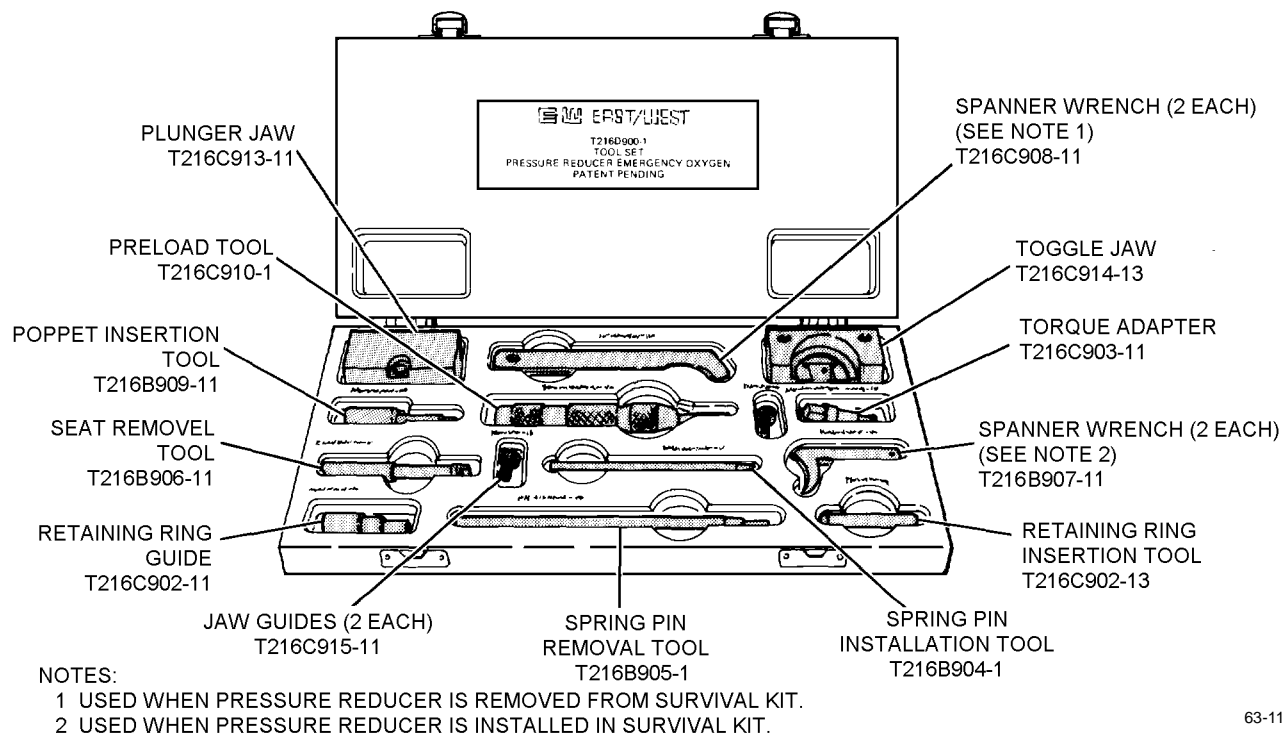


Figure 4-13. SKU-3/A Reducer Assembly

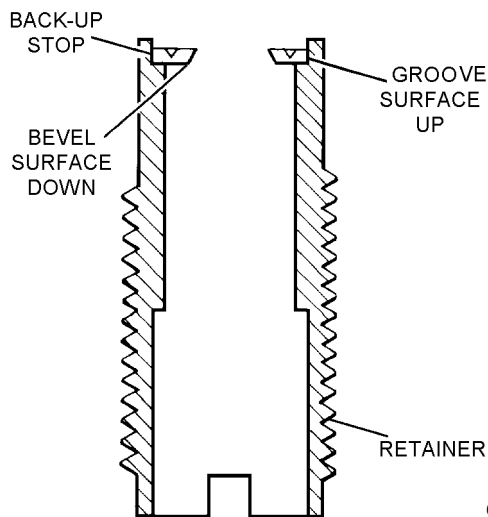
63-1158



63-1157

Figure 4-14. Emergency Oxygen Pressure Reducer Tool Set

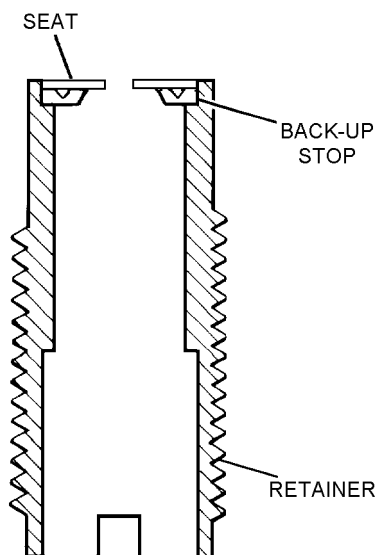
e. Install backup stop in upper groove of retainer, positioning bevel surface down and groove surface up.



63-1172

Step 1e - Para 4-61

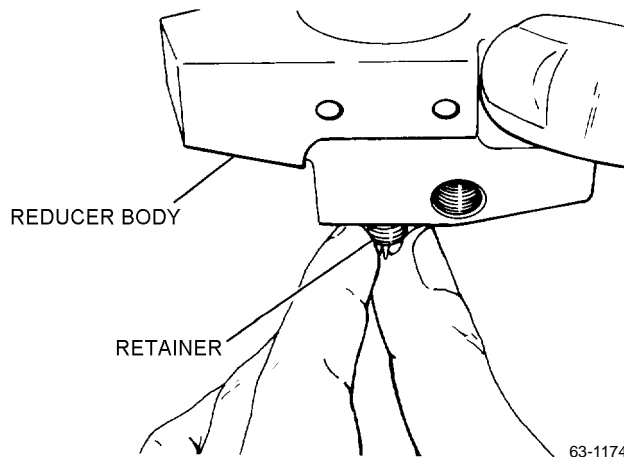
f. Place seat on top of backup stop ensuring proper alignment within retainer groove. Push firmly on seat with finger so that seat is retained in place.



63-1173

Step 1f - Para 4-61

g. While holding retainer in an upright position with backup stop and seat positioned on top, lower reducer body onto retainer and slowly screw retainer into high pressure inlet port of reducer body.

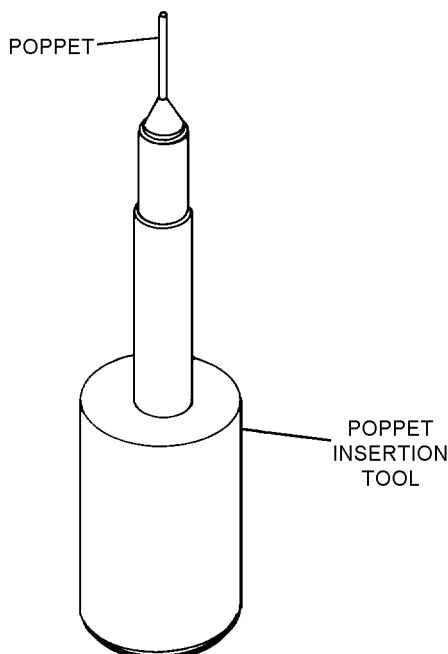


Step 1g - Para 4-61

h. Using torque adapter mounted on a 3/8-inch nut driver, continue screwing retainer into high pressure port until snug. Visually inspect for proper alignment of backup stop and seat into reducer body.

i. Torque retainer into reducer body to 32 to 35 lb-in, using retainer torque adapter and torque wrench.

j. Using poppet insertion tool, place poppet into tool so that cone-shaped part of poppet faces away from heavy end of tool.

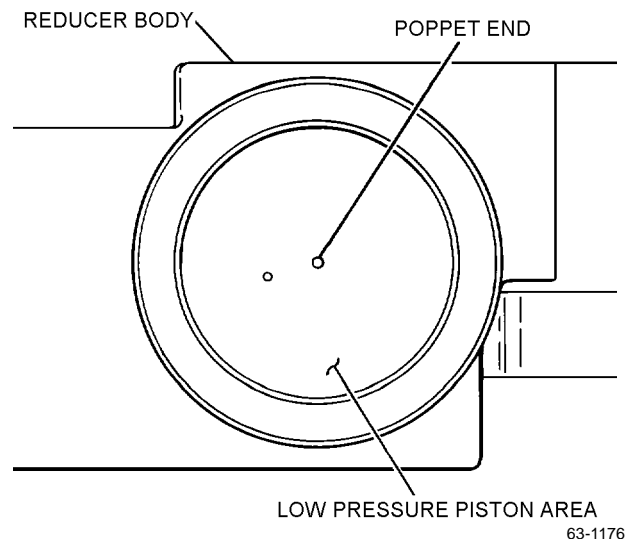


Step 1j - Para 4-61

CAUTION

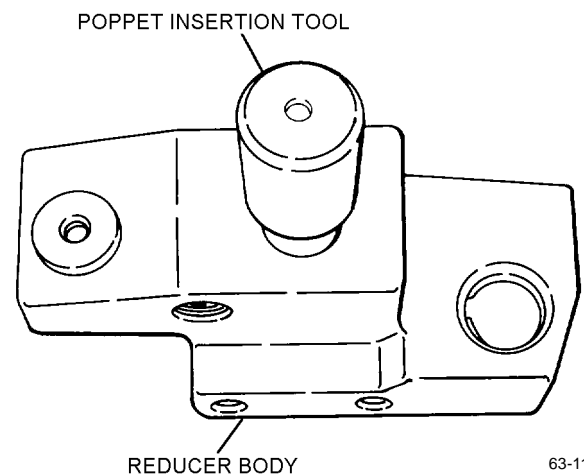
Be careful when inserting poppet that no pressure is applied which could bend poppet shaft. Be certain end of poppet extends into low pressure piston area.

k. Hold reducer body/housing with high pressure retainer side down. Slowly lower reducer housing onto poppet. Carefully rock and turn poppet insertion tool until poppet end is seen to extend into lower pressure piston area.



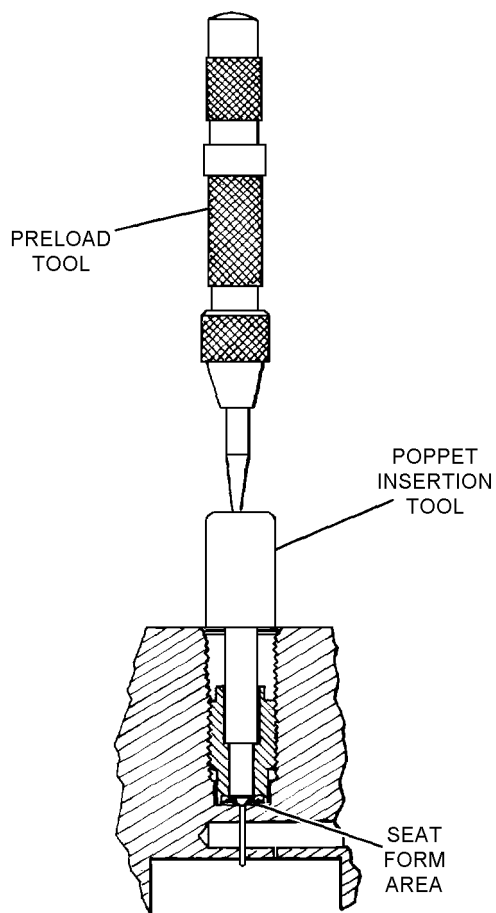
Step 1k - Para 4-61

l. Leaving poppet insertion tool inserted, turn entire assembly over so that high pressure or retainer assembly and poppet insertion tool are now facing up.



Step 1l - Para 4-61

m. Place preload tool into dimple on top of poppet insertion tool. Press down once on preload tool until it unloads with a snap. This forms seat into its correct angle.

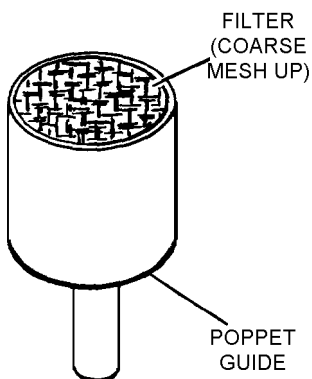


Step 1m - Para 4-61

63-1178

n. Remove poppet insertion tool so that poppet remains positioned inside reducer body against seat.

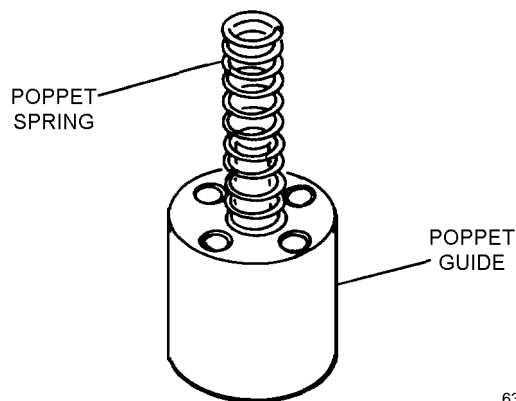
o. Press filter with coarse mesh up into wide end of poppet guide.



Step 1o - Para 4-61

63-1179

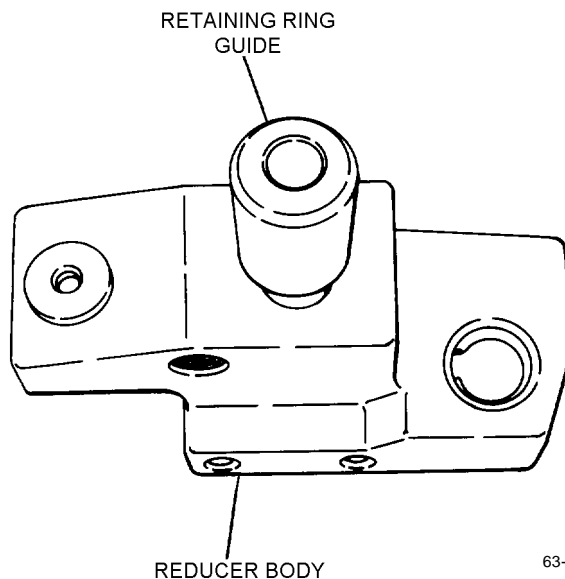
p. Secure poppet spring to poppet guide by pressing spring onto shaft end of guide.



63-1180

Step 1p - Para 4-61

q. Position retaining ring guide into retainer so that the tool engages tangs of retainer.

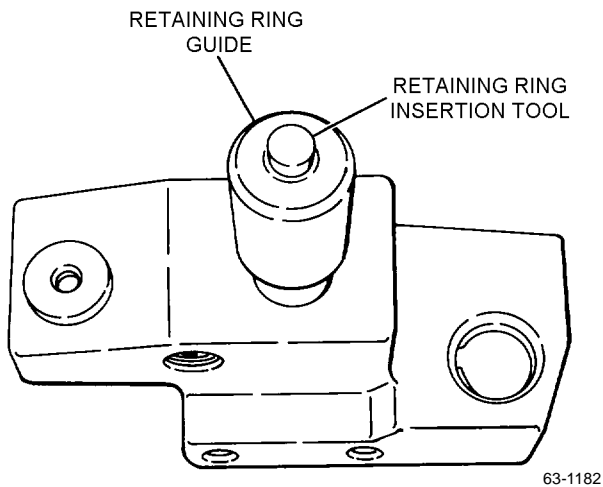


63-1181

Step 1q - Para 4-61

r. Insert poppet guide and spring, with spring end down, into opening in retaining ring guide.

s. Using retaining ring insertion tool, ensure that poppet guide and spring are properly positioned inside retainer.

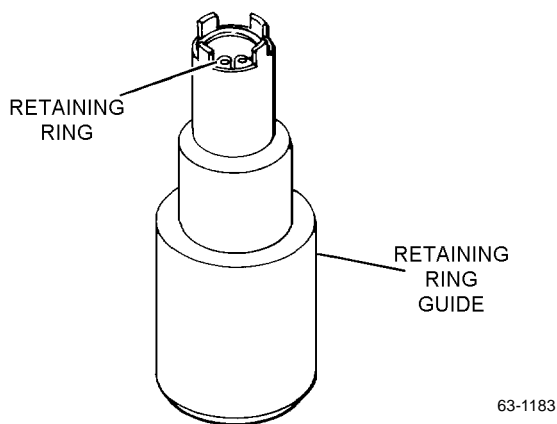


Step 1s - Para 4-61

t. Remove retaining ring insertion tool and retaining ring guide from reducer housing.

u. Visually check that filter end of poppet guide is slightly higher than ends of retainer.

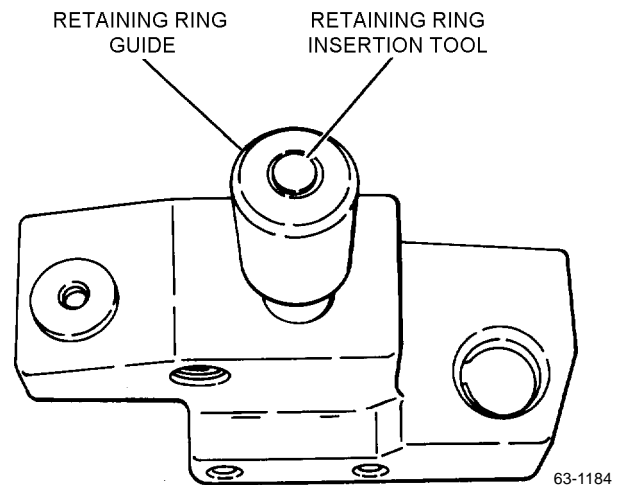
v. Using retaining ring pliers, install retaining ring inside tangs of retaining ring guide.



Step 1v - Para 4-61

w. Insert retaining ring guide into tangs of retainer. Insert retaining ring insertion tool into retaining ring guide.

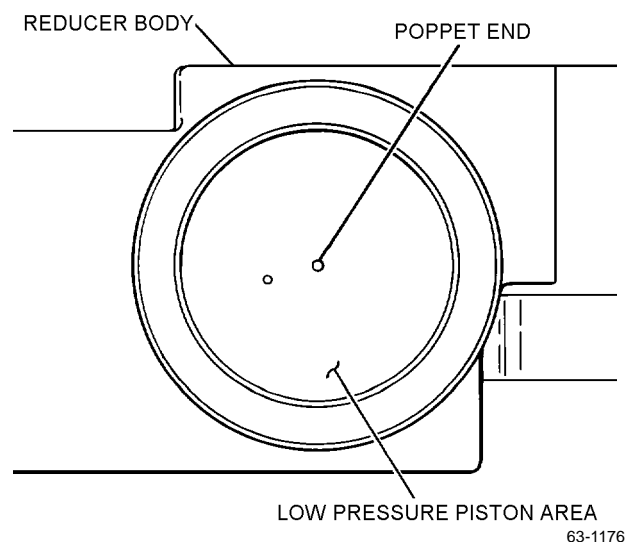
x. Compress poppet spring and seat retaining ring by pressing down on retaining ring insertion tool until flush with top of retaining ring guide.



Step 1x - Para 4-61

y. Remove retaining ring guide and insertion tool. Ensure retaining ring is properly seated in groove.

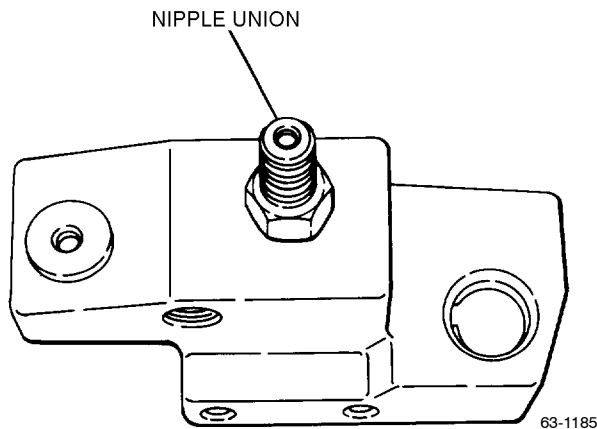
z. Verify that tip of poppet extends into lower pressure piston area.



Step 1z - Para 4-61

NAVAIR 13-1-6.3-2

aa. Lubricate new O-ring and mating surfaces with Krytox 240 AZ. Install O-ring on nipple union and install nipple union into reducer housing.



Step 1aa - Para 4-61

2. Assemble low pressure assembly as follows:

a. Ensure that high pressure assembly is properly assembled in accordance with [step 1](#).

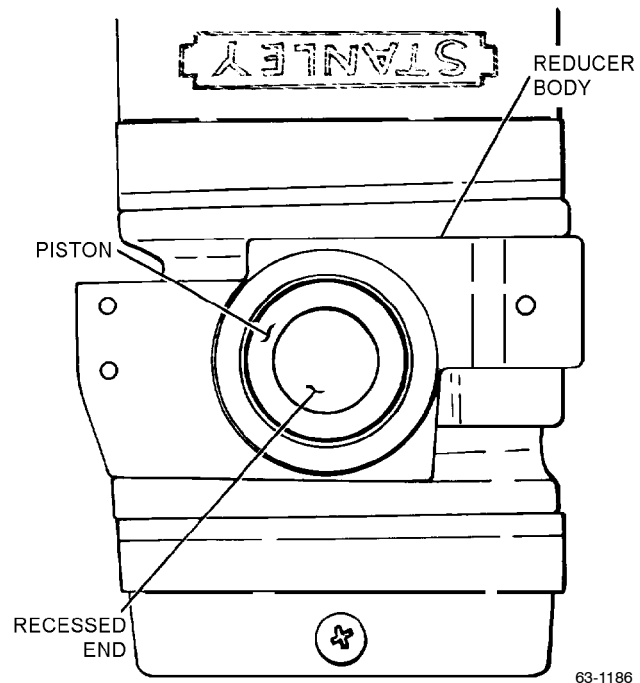
b. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

c. Position oxygen pressure reducer with adjustment side or low pressure side up and secure.

d. Lubricate new O-ring and mating surfaces with Krytox 240 AZ. Install O-ring on piston.

e. Lubricate bore of reducer body with Krytox 240 AZ.

f. Install piston, recessed end out, in bore of reducer body.



Step 2f - Para 4-61

g. Install retaining ring, using retaining ring pliers.

3. Assemble and preadjust adjustment assembly as follows:

a. Ensure that high pressure and low pressure assemblies have been properly assembled in accordance with [steps 1 and 2](#).

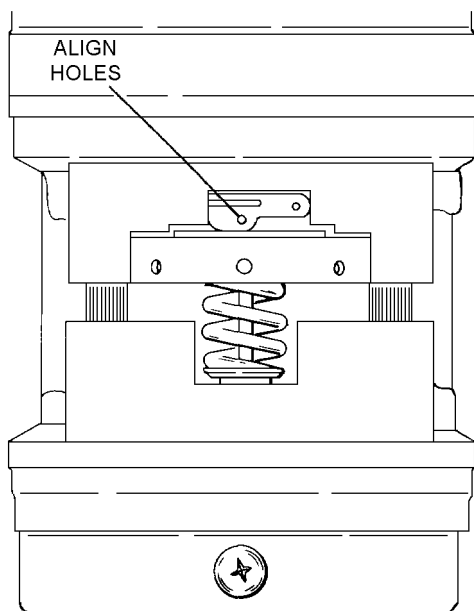
b. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

c. Using appropriate Allen key, screw jaw guides into two threaded holes in toggle jaw.

d. Place toggle and plunger jaws in vise.

e. Assemble adjustment assembly components in proper sequence ([figure 4-13](#)). Position components in toggle and plunger jaws.

f. Apply vise pressure to compress spring. Align hole in toggle with hole in plunger end.



63-1187

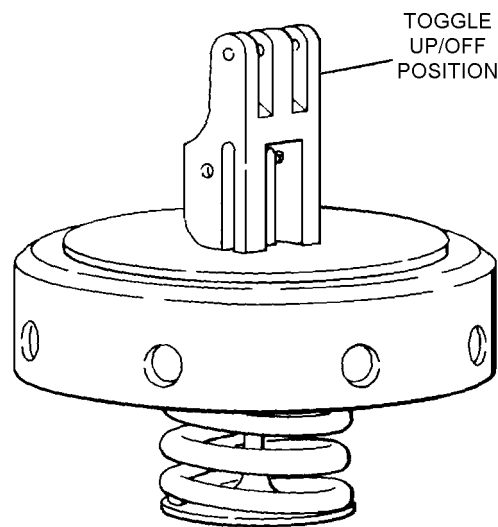
Step 3f - Para 4-61

g. With hole in toggle and hole in plunger aligned, insert new spring pin using spring pin installation tool. Insert spring pin into toggle hole as far as tool will permit. Remove tool and gently drive remainder of spring into toggle, using drift pin.

h. Slowly open vise jaws and ensure that assembly is properly secured.

i. Remove adjustment assembly from toggle and plunger jaws.

j. Using toggle reset tool, rotate toggle to upright (OFF) position.



63-1188

Step 3j - Para 4-61

k. Position reducer assembly with cap adjustment side up.

l. Install lock ring onto reducer body.

NOTE

Ensure lock ring does not contact adjustment assembly during installation.

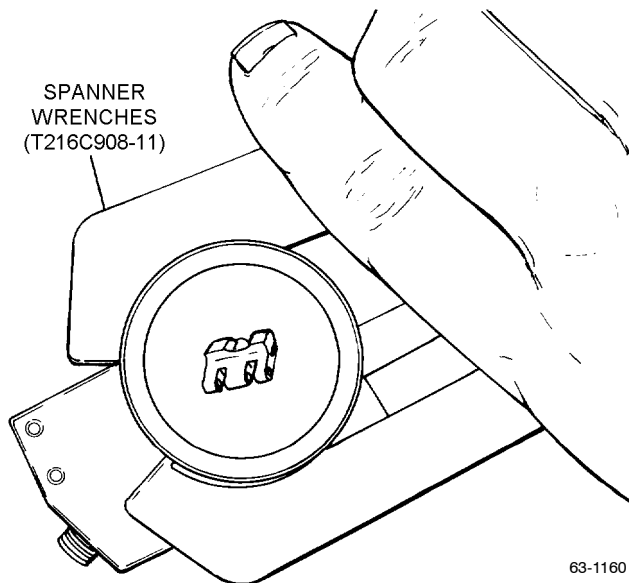
m. Install adjustment assembly onto reducer body by engaging screw threads and rotating clockwise to its lowest position.

n. Back off adjusting cap two complete turns for preadjustment.

o. Turn lock ring counterclockwise until snug with adjusting cap.

NAVAIR 13-1-6.3-2

p. Place one spanner wrench (T216C908-11) in lock ring and second spanner wrench on adjusting cap and secure.



Step 3p - Para 4-61

4. Assemble oxygen gage, filler valve, adapter, and plug (figure 4-13) as follows:

a. Ensure all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

b. Apply antiseize tape to threads of oxygen gage. Install gage.

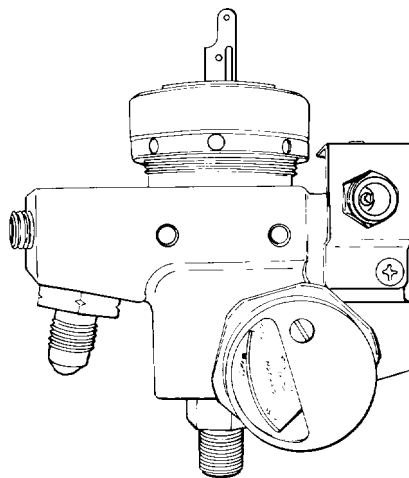
c. Install new filter in filler valve port.

d. Apply antiseize tape to threads of filler valve assembly. Install filler valve assembly.

e. Place retainer over valve body. Apply thread locking compound to screw thread. Insert two screws into retainer and fasten.

f. Apply antiseize tape to threads of plug and install.

g. Lubricate new O-ring and mating surfaces with Krytox 240 AZ. Install O-ring in adapter and install adapter into reducer housing.



Step 4g - Para 4-61

4-62. ADJUSTMENT.

4-63. ADJUSTMENT OF RELIEF VALVE. To adjust the oxygen relief valve, proceed as follows:

1. Bleed pressure to zero and remove relief valve.

2. Using relief valve adjustment tool, (paragraph 4-75), adjust valve unseating pressure by turning cap clockwise to increase relief valve pressure and counterclockwise to decrease (figure 4-15).

NOTE

For an increase in pressure, turn adjusting cap clockwise in incremental adjustments of plus 1/2 or minus 1/4 turn using relief valve adjustment tool.

For a decrease in pressure, turn adjusting cap counterclockwise in incremental adjustments of plus 1/2 or minus 1/4 turn using relief valve adjustment tool.

3. Install oxygen relief valve.

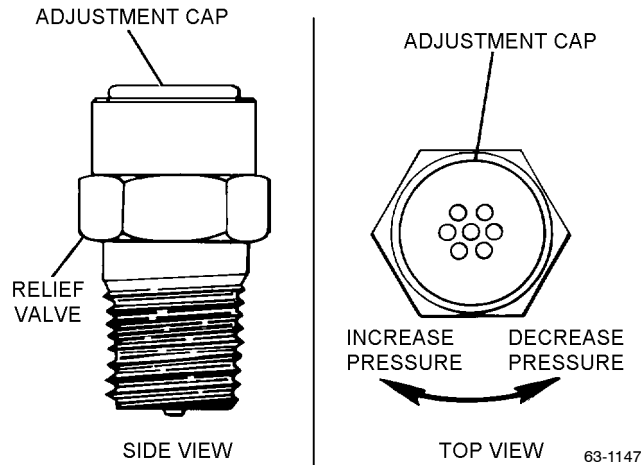


Figure 4-15. Adjustable Relief Valve (Typical)

4. Perform functional check in accordance with [paragraph 4-37](#).

4-64. ADJUSTMENT OF PRESSURE REDUCER ASSEMBLY. To adjust flow rates and outlet pressures on the reducer assembly, proceed as follows:

Support Equipment Required

Quantity	Description	Reference Number
2	Spanner Wrenches (Note 1)	T216B907-11 (Note 3)
	-or-	
2	Spanner Wrenches (Note 2)	T216C908-11 (Note 3)

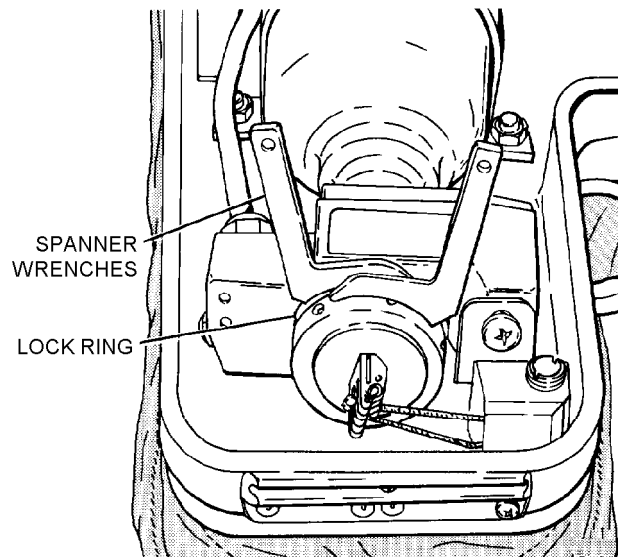
- Notes: 1. Used when pressure reducer is installed in survival kit.
 2. Used when pressure reducer is removed from survival kit.
 3. The spanner wrenches are part of Pressure Reducer Tool Set P/N T216D900-1 (CAGE 30941).

NOTE

Although the following illustrations depict adjustment of the pressure reducer installed on the upper lid assembly, procedures for a disconnected reducer are the same with

the exception of the spanner wrenches used in the adjustment procedures. See Support Equipment Required for correct spanner wrenches.

1. Using spanner wrenches, loosen pressure reducer lock ring.



Step 1 - Para 4-64

2. Turn adjusting cap counterclockwise to decrease pressure or clockwise to increase pressure.
3. Tighten pressure reducer lock ring.
4. Perform functional check on kit in accordance with [paragraph 4-37](#).

4-65. ADJUSTMENT OF LOCKS AND LID LOCK RELEASE ASSEMBLIES. If lid locks fail to release simultaneously, adjust (advance or retard) as follows:

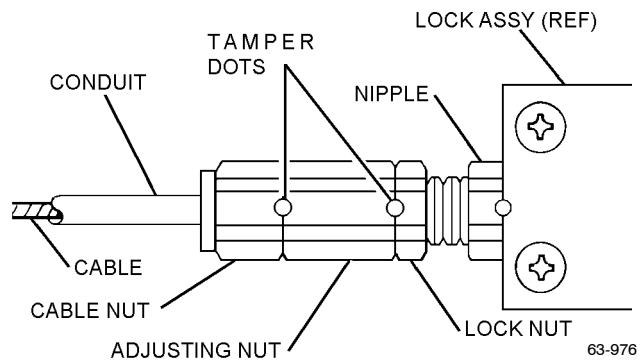
Materials Required

Quantity	Description	Reference Number
As Required	Lacquer, Fed. Std. 595	MIL-L-7178 (Note 1)

- Notes: 1. Use any contrasting color.

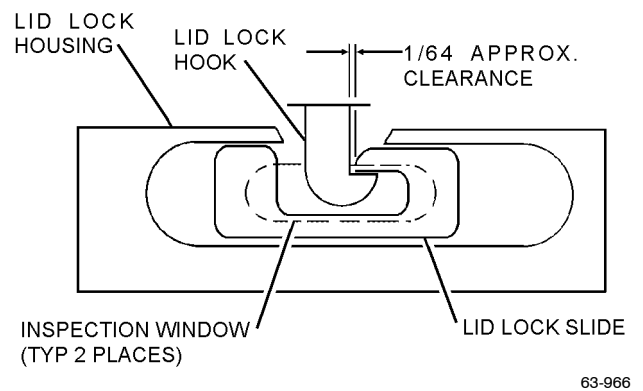
NAVAIR 13-1-6.3-2

1. To advance release operation, loosen locknut and back off adjusting nut away from assembly to desired amount.



Step 1 - Para 4-65

- 2. When desired timing is achieved, tighten locknut against adjusting nut.
- 3. To retard release operation, proceed in accordance with [steps 1](#) and [2](#), except adjusting nut is adjusted toward assembly.
- 4. Check latches for proper engagement of upper container hooks.



Step 4 - Para 4-65

NOTE

Use any contrasting color when applying tamper dots to nuts.

- 5. Apply tamper dots on nuts with lacquer.

4-72 Change 5

4-66. ADJUSTMENT OF AUTOMATIC EMERGENCY OXYGEN RELEASE ASSEMBLY. To adjust the automatic emergency oxygen release assembly, proceed as follows:

Support Equipment Required

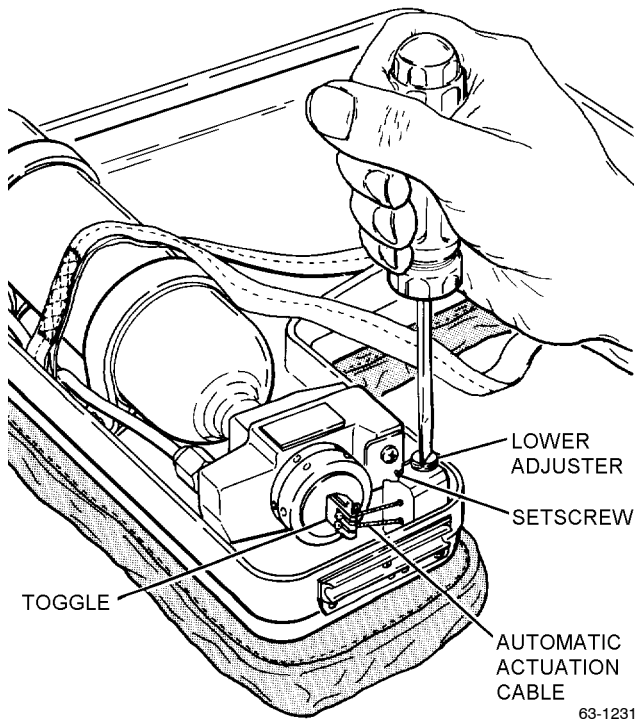
Quantity	Description	Reference Number
1	Toggle Reset Tool	Fabricate IAW paragraph 4-69

NOTE

Ensure that oxygen outlet port on manifold assembly is capped or hose assembly is installed.

Ensure that there is sufficient slack in cable so that toggle in up position is not under tension and cable balls are correctly positioned.

- 1. Loosen setscrew on oxygen release assembly.
- 2. Using screwdriver, position lower adjuster so that a minimum of slack exists in link assembly and toggle is not under tension.



Step 2 - Para 4-66

3. Engage oxygen release lanyard link with link inside lower end of adjuster.

4. Tighten setscrew.

5. Operate release assembly by pulling automatic emergency oxygen cable. Ensure that automatic emergency oxygen cable pulls free from adjuster and trips reducer toggle.

6. Engage oxygen release lanyard link with link in side lower end of adjuster, and reset toggle using toggle reset tool.

7. Operate release assembly by pulling manual oxygen release. Ensure that reducer toggle trips within a moderate amount of cable travel.

8. Reset toggle with toggle reset tool.

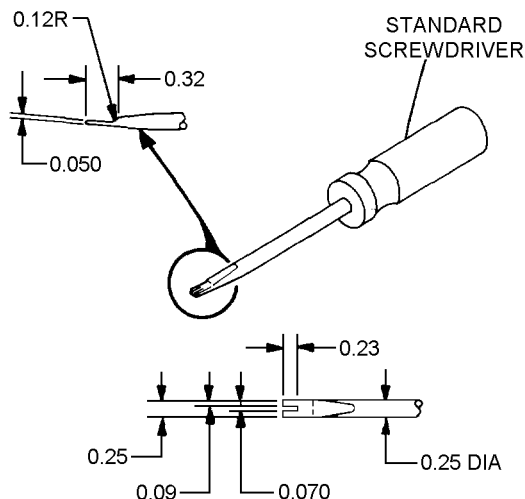
Section 4-7. Fabrication

4-67. GENERAL.

4-68. This section contains instructions for fabrication of tools and components that can be manufactured by local maintenance activities.

4-69. TOGGLE RESET TOOL. To fabricate a toggle reset tool, proceed as follows:

1. Modify a standard slot screwdriver as shown.



NOTE: ALL CORNER AND FILLET RADII 0.015

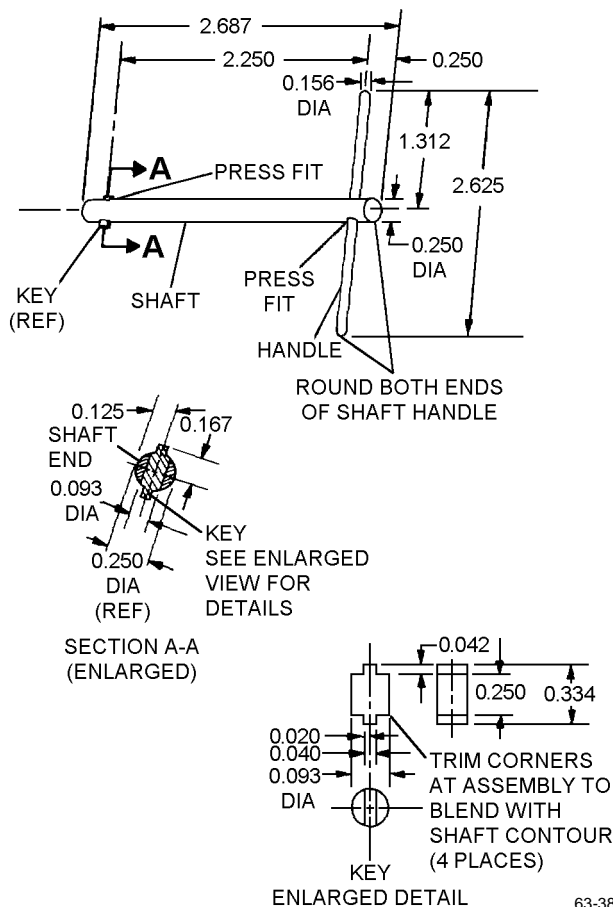
63-229

Step 1 - Para 4-69

2. Ensure that all corner and fillet radii are 0.015.

4-70. T-WRENCH. To fabricate a T-wrench, proceed as follows:

1. Fabricate wrench from steel as shown.



ENLARGED DETAIL

63-388

Step 1 - Para 4-70

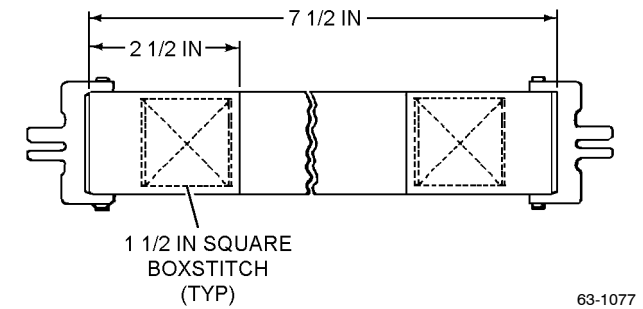
NAVAIR 13-1-6.3-2

2. Ensure that both ends of shaft handle are properly rounded.

4-71. BRAKE RIDER’S STRAP. To fabricate a brake rider’s strap, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
2	Release Assembly, Lapbelt Fitting	015-11366-1 (CAGE 99449)
24 inches	Webbing, Nylon, Type XXVII, 1-23/32 inch width	MIL-W-4088 NIIN 00-530-1489
As Required	Thread, Nylon, Type II, Class A, Size 6	V-T-295 NIIN 00-559-5211

- 1. Cut a piece of nylon webbing 24 inches in length.
- 2. Sear exposed ends of webbing.
- 3. Secure fittings with 1 1/2-inch square box-stitch. All stitching shall be ASTM-D-6193, Type 301, 4 to 6 stitches per inch, and backstitch 1/2 inch minimum.



Step 3 - Para 4-71

4-72. BOOT. To fabricate a boot, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Cloth, Nylon	MIL-C-8135 -or- MIL-C-81395
As Required	Thread, Nylon, Size FF, Type I, Class A, White	V-T-295 NIIN 00-267-3024

4-74 Change 5

- 1. Construct a boot in accordance with [figure 4-16](#).
- 2. Sear exposed ends of nylon and avoid sharp edges.
- 3. All stitching shall be ASTM-D-6193, Type 301, 8 to 10 stitches per inch, and backstitch 1/2 inch minimum.

4-73. DROPLINE. To fabricate a dropline, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Webbing, 3/4-Inch Yellow	MIL-W-5625 NIIN 00-753-6531
As Required	Thread, Nylon, Size FF, Type I, Class A, White	V-T-295 NIIN 00-267-3024

- 1. Lay out webbing and position identification yarn on top before proceeding.
- 2. Fabricate a dropline in accordance with [figure 4-17](#).
- 3. Sear exposed end of webbing.
- 4. All stitching shall be ASTM-D-6193, Type 301, 8 to 10 stitches per inch, and backstitch 1/2 inch minimum.

4-74. CONTAINER ASSEMBLY PAD. To fabricate a container assembly pad P/N 253D460-1, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
1	Cork	MIL-T-6841
	Adhesive Sheet, 0.062 Inch Thick	NIIN 00-551-8332

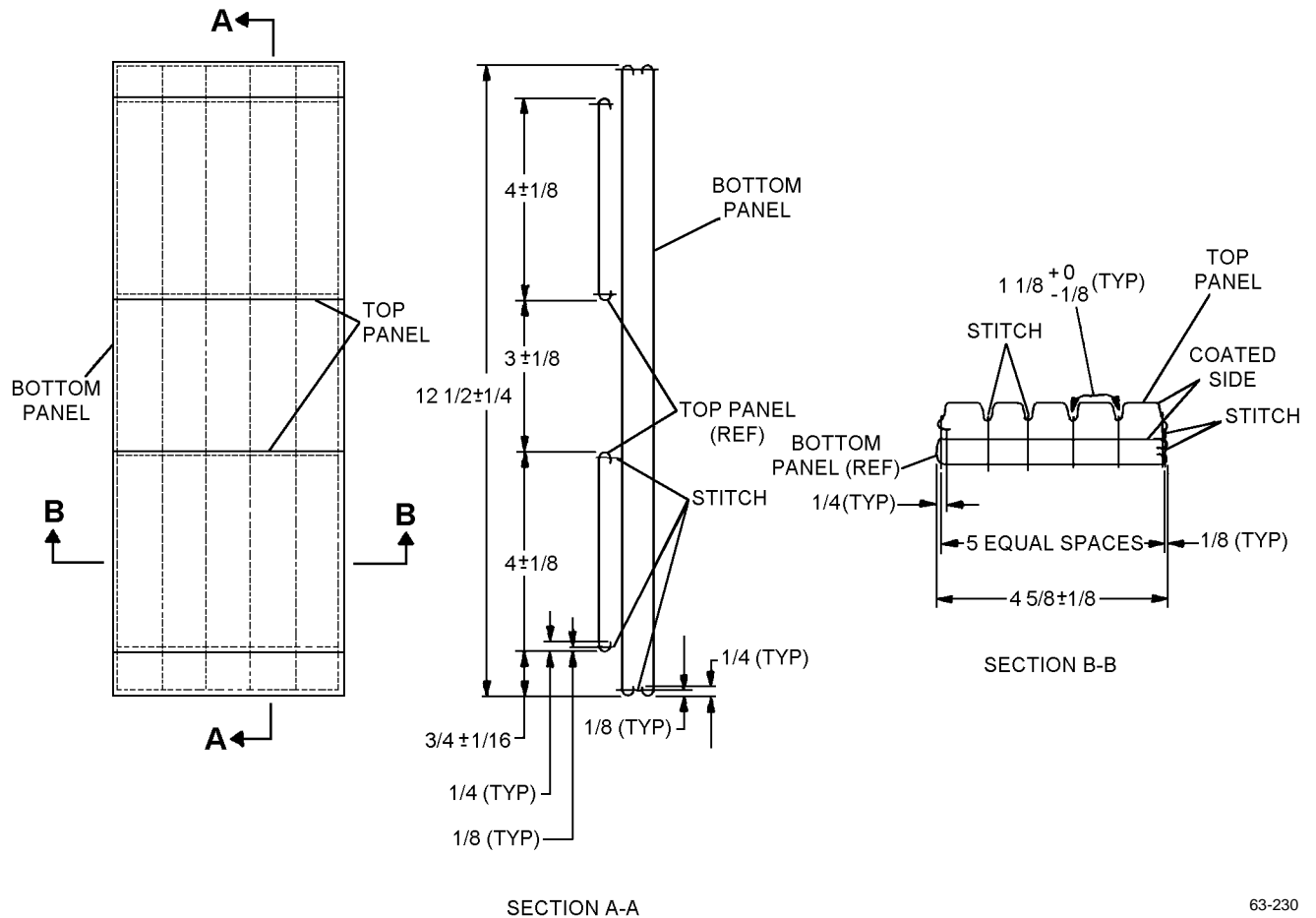


Figure 4-16. Boot

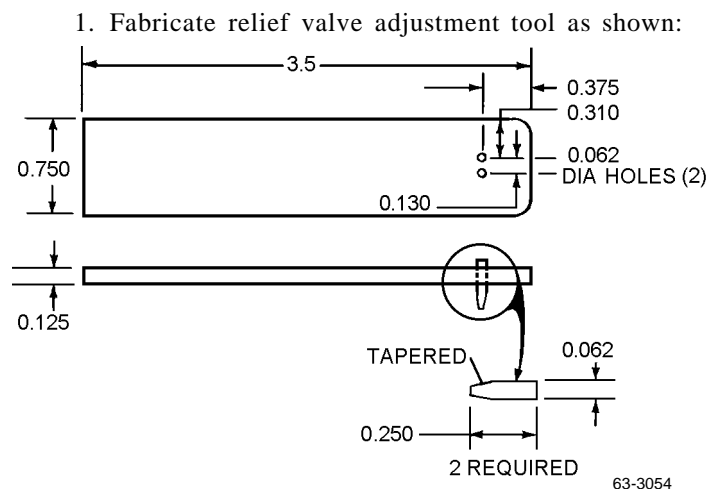
1. Fabricate a container assembly pad in accordance with figure 4-18.

2. Rubber stamp part number on container assembly pad.

4-75. RELIEF VALVE ADJUSTMENT TOOL. To fabricate a relief valve adjustment tool proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Mild Steel 0.125 Thick	—
As Required	Drill Rod 0.062 Dia.	—



Step 1 - Para 4-75

2. Press fit drill rod into holes in mild steel plate.

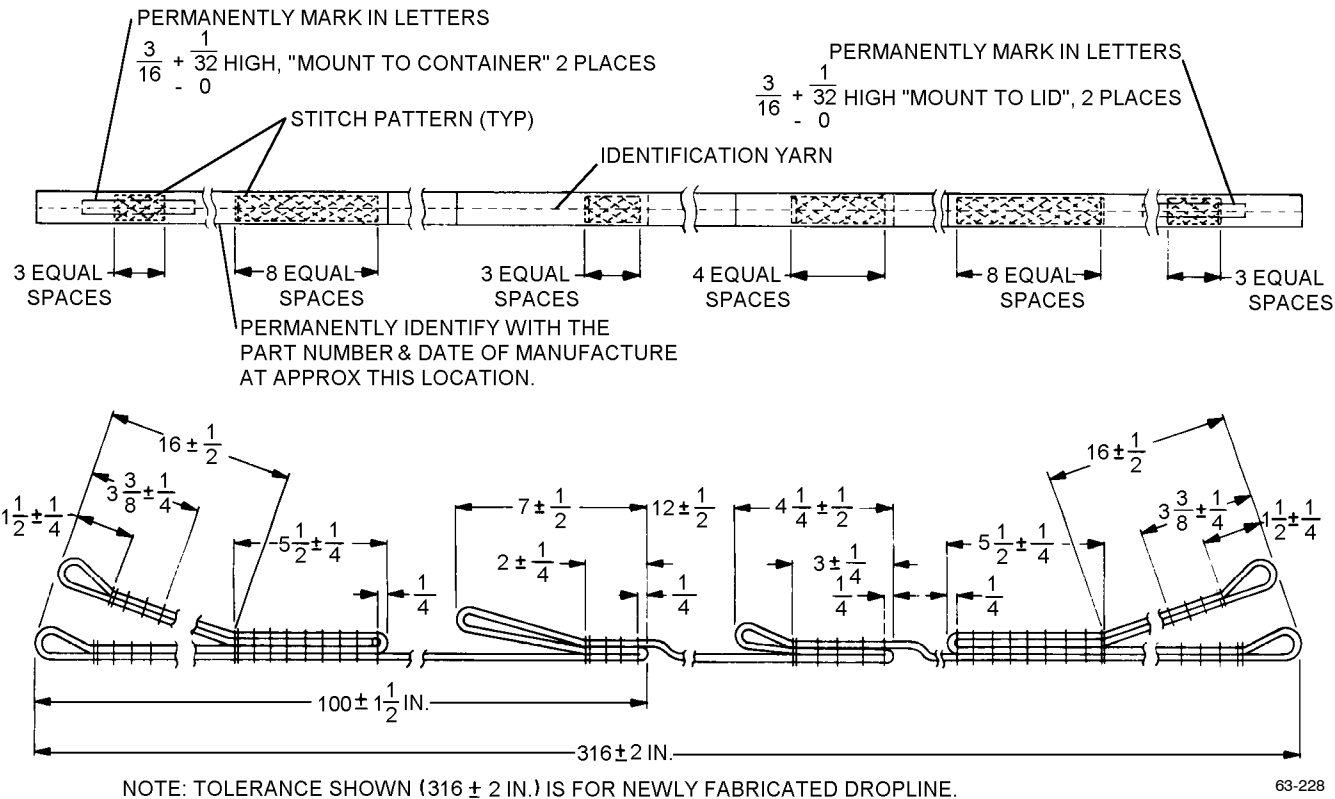


Figure 4-17. Dropline

4-76. ALTERNATE SEAT CUSHION FOAM. To fabricate a replacement foam cushion for the Seat Survival Kit, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Disposable Razor or Knife	—
As Required	CONFOR Foam, 1 Inch Thick, CF-47100 Green or CF-45100 Blue	NIIN 01-370-6116 or NIIN 01-449-1789

1. Remove old foam from seat cushion cover.
2. Use the old foam as a template, place old foam on top of CONFOR foam.

NOTE

Ensure bulk CONFOR foam is large enough to make the new foam cushion one solid piece.

3. Trace around old foam onto the CONFOR foam, including hole for observing the emergency oxygen gage.
4. Cut CONFOR foam along the traced line.
5. Install new foam cushion into seat cushion cover. Ensure seat cushion cover fits cushion foam snugly, but does not cause bowing or excessively loose condition.
6. Write the date installed on foam with permanent marker so it can be seen easily.

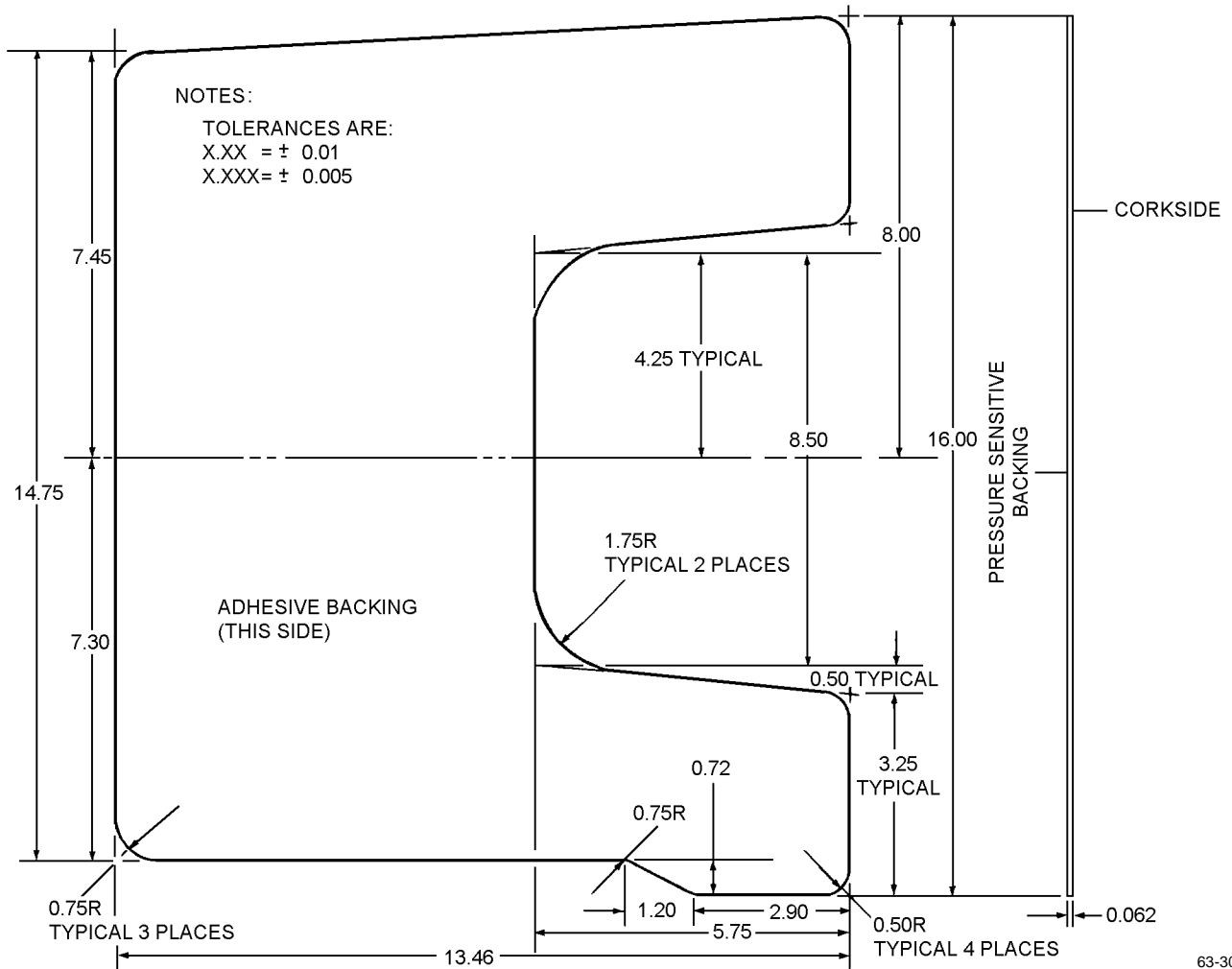


Figure 4-18. Container Assembly Pad

Section 4-8. Illustrated Parts Breakdown

4-77. GENERAL.

4-78. This section lists and illustrates the assemblies and detail parts of the SKU-3/A survival kit assembly as manufactured by East/West Industries. The entire

assembly is supplied by McDonnell Aircraft Company (CAGE 76301) and carries a P/N 74A800103-1001.

4-79. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.

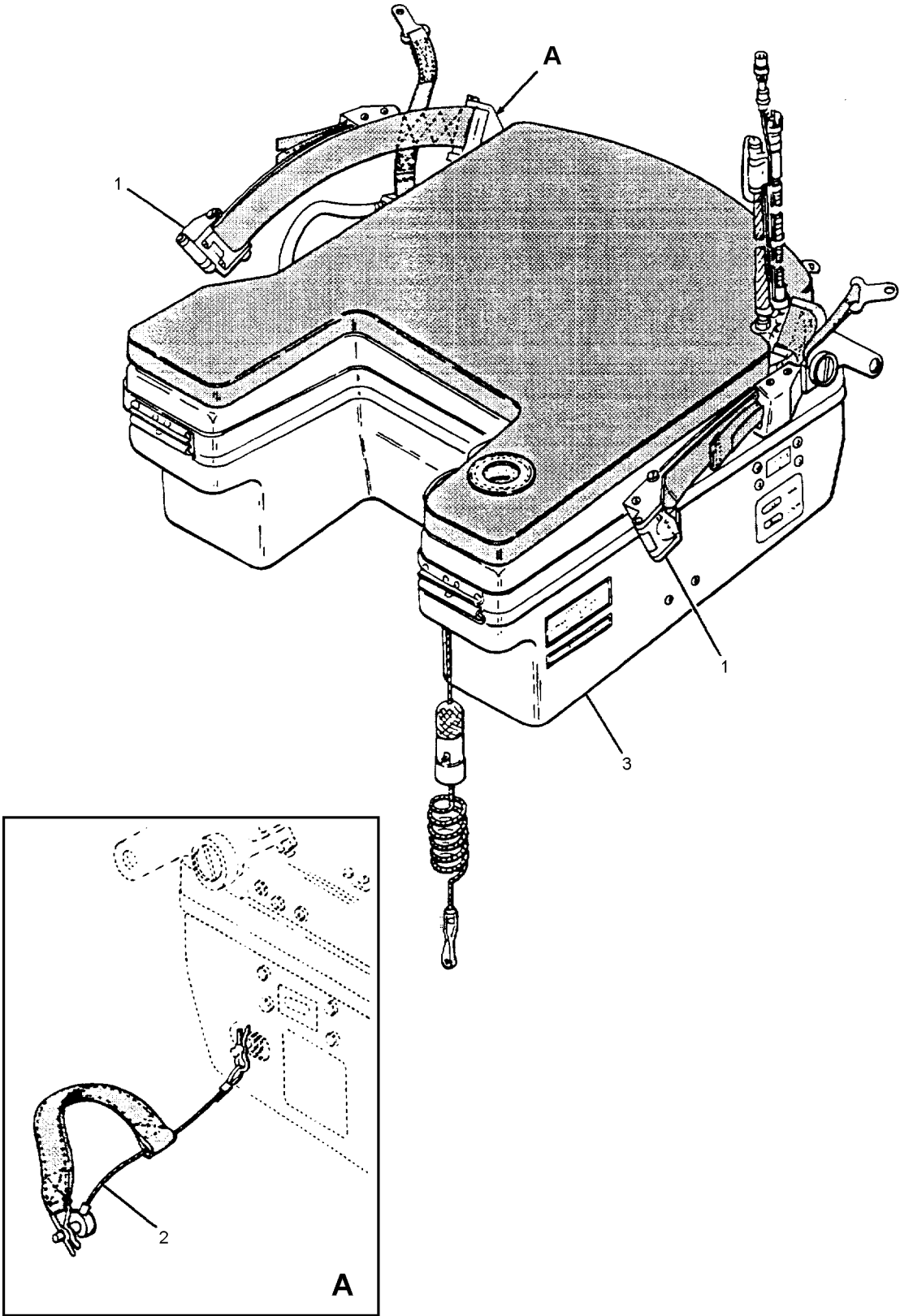
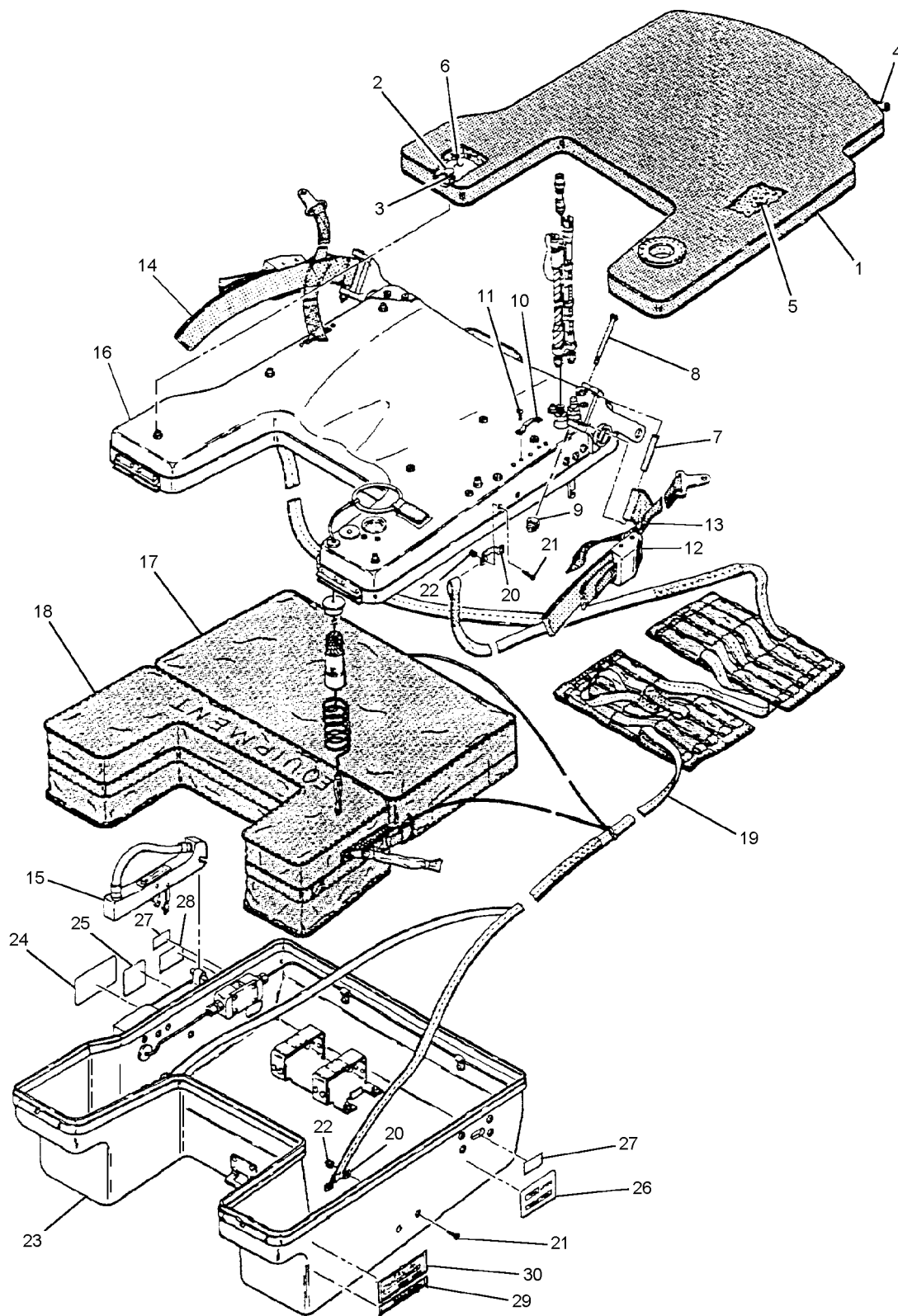


Figure 4-19. Survival Kit Assembly (SKU-3/A)

63-1232

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
4-19	74A800103-1001 015-11365-1	SURVIVAL KIT ASSEMBLY, SKU-3/A (76301)	1	
		. RELEASE ASSEMBLY, Lapbelt (99449) (Note 1)	2	
	MBEU 66999-3 MBEU 66999-2	. CABLE ASSEMBLY, Beacon actuating (U1604) (Note 2)	1	
		. SURVIVAL KIT ASSEMBLY (30941) (See figure 4-20 for BKDN)	1	
	Notes: 1. When replacing lapbelt assembly, apply sealing, locking, and retaining compound, MIL-S-22473, to shoulder screws. 2. Refer to NAVAIR A1-F18AC-120-300 for ejection seat applicability.			



63-1233

Figure 4-20. Survival Kit Assembly Components (SKU-3/A)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-20	253J100-1	SURVIVAL KIT ASSEMBLY, SKU-3/A (30941) (See figure 4-19 for NHA)	REF	
	253D670-1	. CUSHION ASSEMBLY, Seat survival kit, A/C	1	
	253D670-3	. . COVER ASSEMBLY, Cushion	1	
-1	253D670-11	. . . COVER, Cushion (Note 1)	1	
-2	MS27983-1N	. . . BUTTON	6	
-3	MS27983-2N	. . . SOCKET	6	
-4	253D670-19	. . . FASTENER, Slide	1	
		(V-F-106, type I style no. 3, size M)		
	253D670-17	. . CUSHION PAD ASSEMBLY	1	
-5	253D670-21	. . . PAD, Cushion (Note 2)	1	
-6	253D670-23	. . . BACKING (Note 3)	1	
	253D680-1	. HARNESS ASSEMBLY, LH	1	
	253D680-2	. HARNESS ASSEMBLY, RH	1	
		(ATTACHING PARTS)		
-7	221B210-11	. ROLLER, Harness retention	2	
-8	221B691-11	. PIN, Harness retention	2	
-9	22K1-02	. NUT, Cap (82156)	2	
	EW42001	. NUT, Cap (30941)	2	
-10	102C101-13	. BRACKET	2	
-11	MS51958-62	. SCREW, (No. 10-32 x 0.438 lg)	4	
		---*---		
-12	184C100-1	. . ADJUSTER, Restraint harness	1	
-13	253D690-1	. . HARNESS ASSEMBLY, LH	1	
-14	253D690-2	. . HARNESS ASSEMBLY, RH	1	
-15	102D550-3	. HANDLE ASSEMBLY, Release	1	
-16	253J200-1	. LID ASSEMBLY (See figure 4-21 for BKDN)	1	
-17	253D610-1	. COVER, Raft	1	
-18	253D615-3	. CONTAINER ASSEMBLY, Equipment	1	
-19	36H1323-31	. LANYARD ASSY, Retaining (82156)	1	
	102D620-5	. LANYARD ASSY, Retaining (30941)	1	
		(ATTACHING PARTS)		
-20	102C101-11	. BRACKET, Footman	4	
-21	MS51960-64	. SCREW, Machine Flat hd (No. 10-32 x 0.44 lg) ...	8	
-22	22K1-02	. NUT, Cap (No. 10-32) (82156)	8	
	EW42001	. NUT, Cap (No. 10-32) (30941)	8	
		---*---		
-23	253J400-101	CONTAINER ASSEMBLY, Lower	1	
		(See figure 4-24 for BKDN) (supersedes P/N 253J400-1)		
	253J400-1	CONTAINER ASSEMBLY, Lower (superseded by P/N 253J400-101)	1	
-24	102D499-17	. LABEL, Warning	1	
-25	102D499-23	. LABEL, Instruction	1	
-26	102D499-15	. LABEL, Indicating	1	
-27	LT100TY2-500	. TAPE (L-T-100, TYPE II, 1/2-inch wide)	A/R	
-28	LT100TY2-1-250	. TAPE (L-T-100, TYPE II, 1 1/4-inch wide)	A/R	
-29	253C916-11	. NAMEPLATE	1	

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Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-20-30	253C914-11	. NAMEPLATE	1	
	Notes: 1. Cushion reference number (MIL-C-7219, Type III, Class 3, Sage Green) 2. Alternate cushion foam P/N CF-47100, CONFOR foam (1M331), NIIN 01-370-6116, has been authorized (see Fabrication Section 4-7). 3. Bond 253D670-23 backing to 253D6770-21 pad using MIL-C-5540 adhesive.			

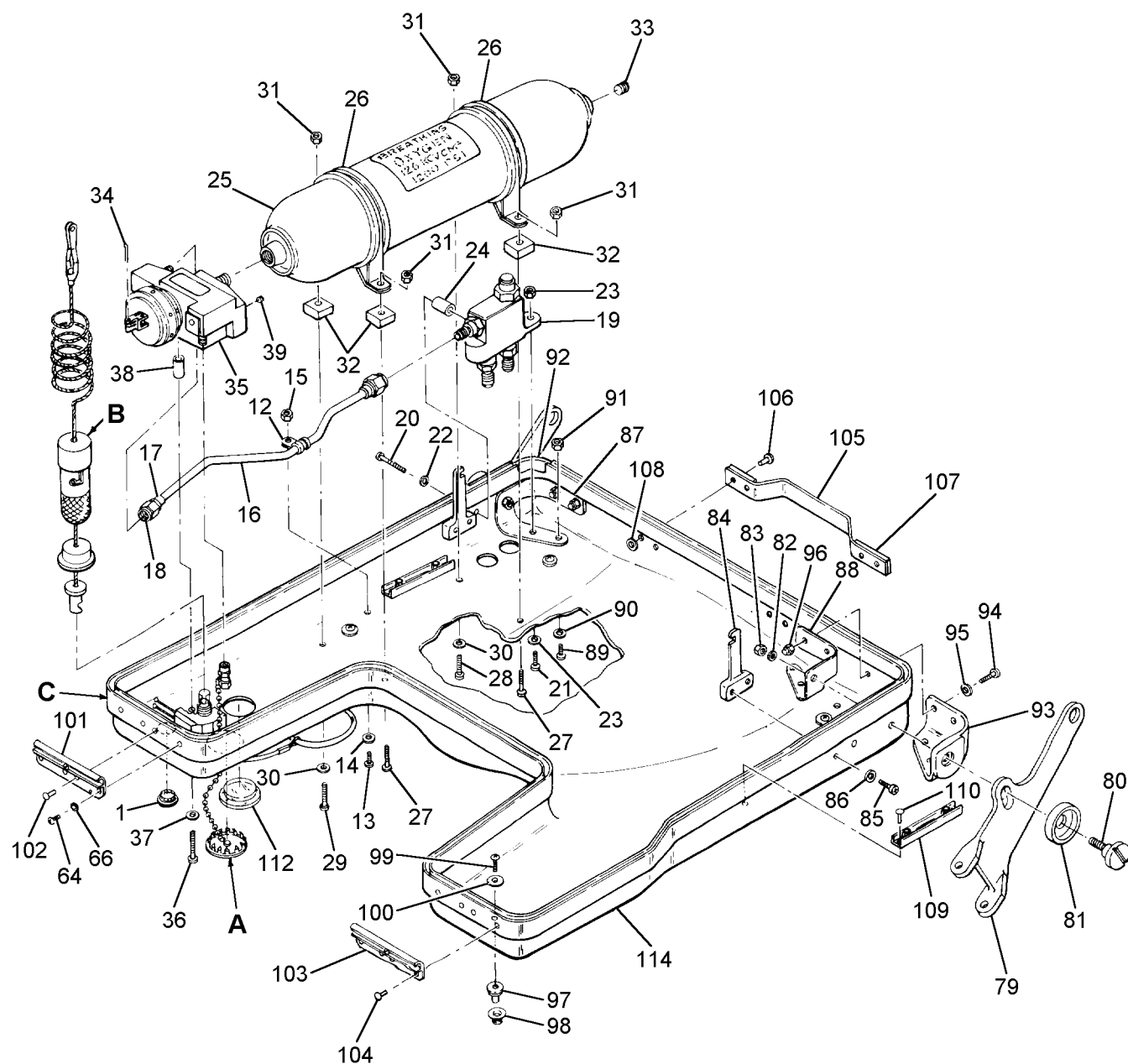


Figure 4-21. Lid Assembly (Sheet 1 of 2)

63-12341

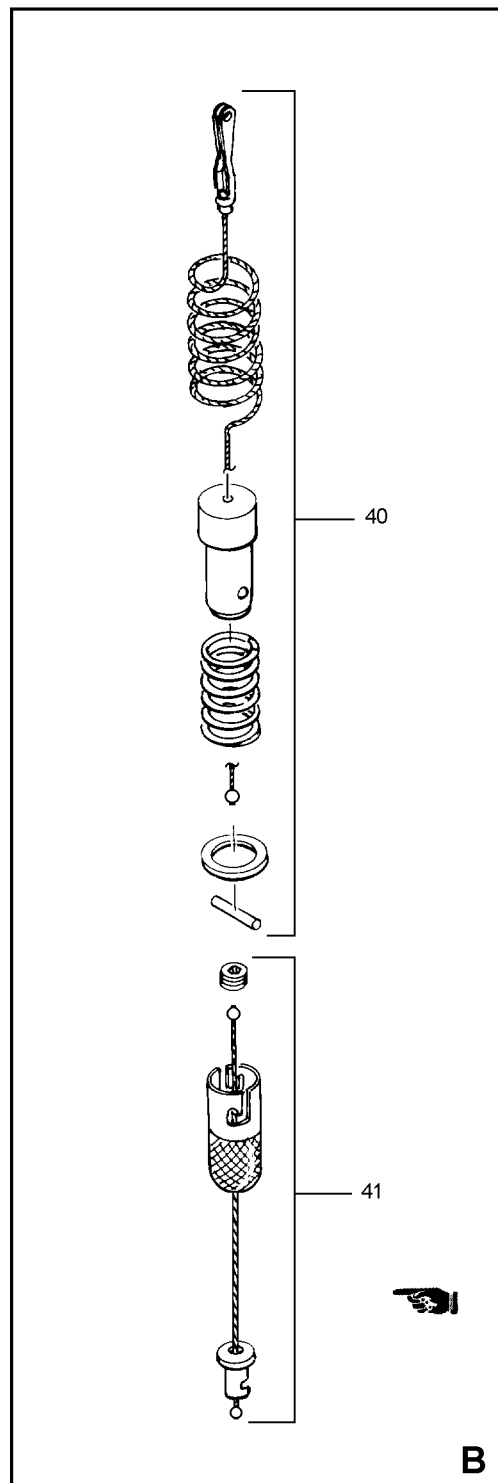
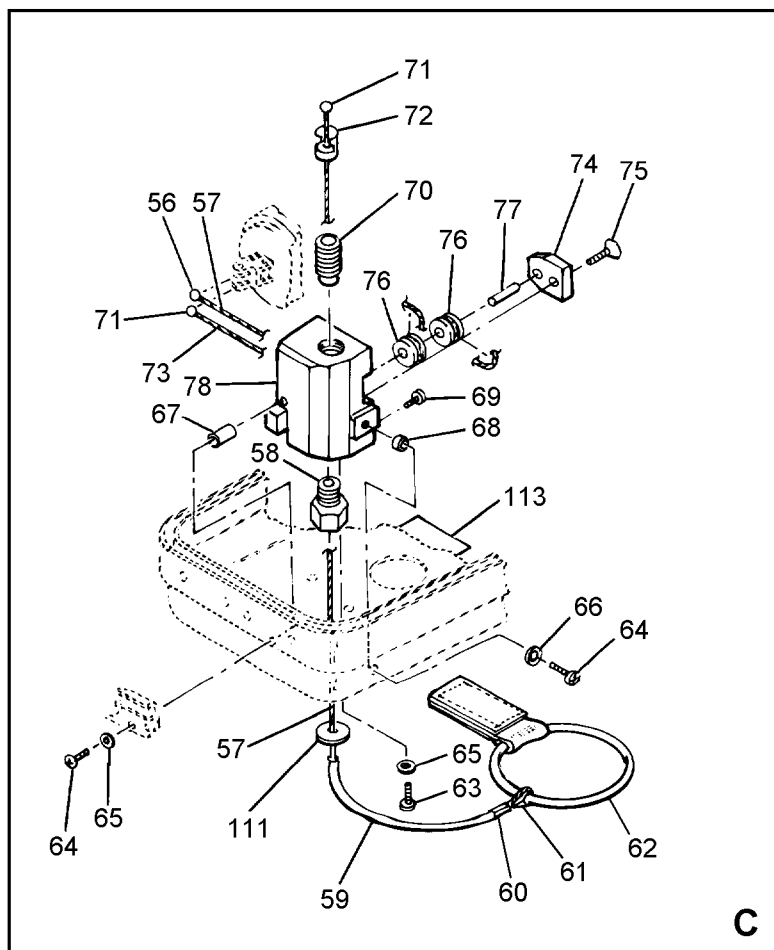
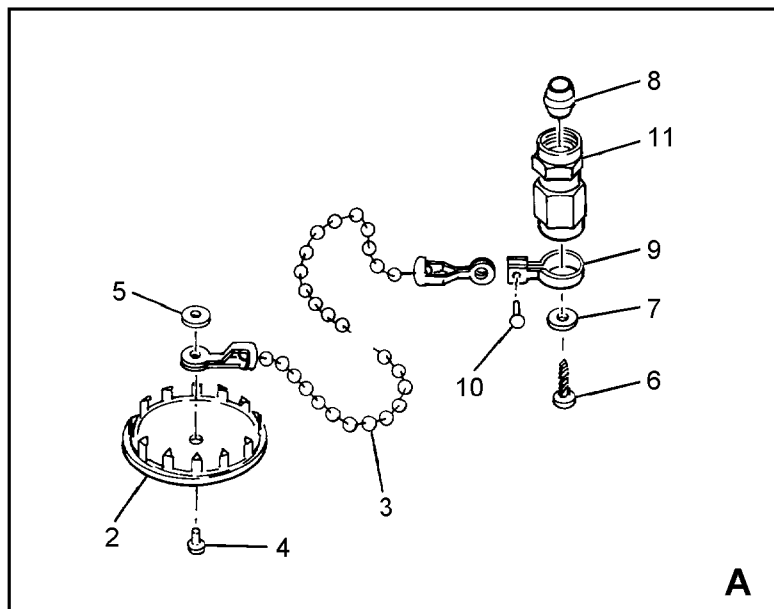


Figure 4-21. Lid Assembly (Sheet 2 of 2)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-21	253J200-1	LID ASSEMBLY (See figure 4-20 for NHA)	REF	
-1	SS51338	. PLUG (83058)	1	
	EW8001	. PLUG (30941)	1	
	221C280-1	. PLUG AND CAP ASSEMBLY	1	
-2	221B281-11	. . PLUG	1	
-3	221B283-1	. . BEAD CHAIN ASSEMBLY	1	
		(ATTACHING PARTS FOR INDEX NOS. 2, 3)		
-4	M316535-89	. . RIVET, Oval hd	1	
-5	MS15795-802	. . WASHER, Flat	1	
		---*---		
-6	COML	. . SCREW, Drive (Type U, size 4)	1	
	EW41003	. . SCREW, Drive (Type U, size 4) (30941)	1	
-7	AN960C4	. . WASHER, Flat	1	
-8	102C381-11	. . PIVOT	1	
-9	221B282-11	. . STRAP	1	
-10	MS16535-89	. . RIVET, Oval hd	1	
-11	221B382-11	. . CAP	1	
	253D355-1	. TUBE ASSEMBLY	1	
		(ATTACHING PARTS)		
-12	MS21919DG4	. CLAMP, Cushioned support	1	
-13	MS51958-63	. SCREW, Machine-pan head	1	
-14	AN960C10L	. WASHER, Flat	1	
-15	F22K1-02	. NUT, Cap (82156)	1	
	EW42001	. NUT, Cap (30941)	1	
		---*---		
-16	253D355-11	. . TUBE	1	
-17	MS20819-4D	. . SLEEVE, Flared tube fitting	2	
-18	AN818-4D	. . NUT, Coupling	2	
-19	253D317-1	. MANIFOLD ASSY	1	
		(See figure 4-22 for BKDN)		
		(ATTACHING PARTS)		
-20	MS51958-66	. SCREW, Machine-pan head	1	
-21	MS51958-65	. SCREW, Machine-pan head	1	
-22	AN960C10L	. WASHER, Flat	2	
-23	F22K1-02	. NUT, Cap (82156)	1	
	EW42001	. NUT, Cap (30941)	1	
		---*---		
-24	221B321-11	. STANDOFF	1	
-25	235D200-3	. CYLINDER, Oxygen	1	
		(ATTACHING PARTS)		
-26	NAS1716C40T	. CLAMP ASSEMBLY, Cushioned saddle	2	
-27	MS51960-65	. SCREW, Machine-flat countersunk hd	2	
-28	MS51958-64	. SCREW, Machine-pan head	2	
-29	MS51958-65	. SCREW, Machine-pan head	1	
-30	AN960C10L	. WASHER, Flat	2	

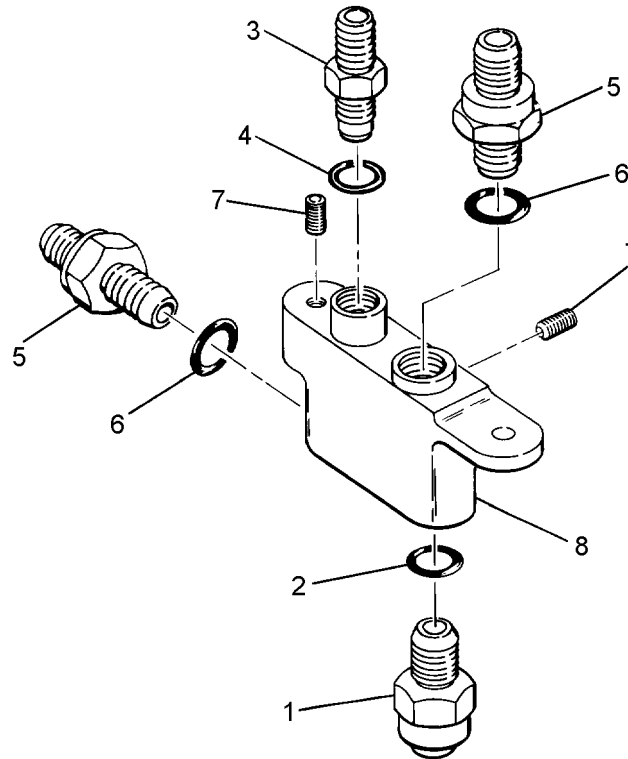
NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
4-21-31	F22K1-02	. NUT, Cap (82156)	4	
	EW42001	. NUT, Cap (30941)	4	
		---*---		
-32	221B322-13	. SPACER	3	
-33	AN932S2	. PLUG, Countersink hex hd pipe	1	
-34	MS24665-88	. [] PIN, [] Cotter [Note 4] []	1	
-35	216D800-1	. REDUCER ASSEMBLY	1	
		(See Figure 4-25 for BKDN)		
	216D800-5	. REDUCER ASSEMBLY	1	
		(See Figure 4-25 for BKDN)		
		(ATTACHING PARTS)		
-36	MS51958-67	. SCREW, Machine-pan head	2	
-37	AN960C10L	. WASHER, Flat	2	
		---*---		
-38	221B321-11	. STANDOFF	2	
-39	3HP50NSS	. PLUG, Hollow hex (30780)	1	
	EW61001	. PLUG, Hollow hex (30941)	1	
-40	253C363-1	. . COUPLING ASSEMBLY, Lower lanyard	1	
-41	253C364-5	. . COUPLING ASSEMBLY, Upper lanyard	1	
-42	DELETED			
-43	DELETED			
-44	DELETED			
-45	DELETED			
-46	DELETED			
-47	DELETED			
-48	DELETED			
-49	DELETED			
-50	DELETED			
-51	DELETED			
-52	DELETED			
-53	DELETED			
-54	DELETED			
-55	DELETED			
	253C336-1	. OXYGEN CABLE ASSEMBLY, Manual	1	
-56	8-04052	. . BALL, Swage (11328)	1	
	EW54001	. . BALL, Swage (30941)	1	
-57	253C336-11	. [] . [] CABLE [Note 4] []	1	
-58	102C394-11	. [] . [] ADAPTER [Note 5] []	1	
-59	220B116-21	. . SLEEVE	1	

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-21-60	28-11B4	. . SLEEVE, Oval (76691)	1	
	EW54005	. . SLEEVE, Oval (30941)	1	
-61	220B116-13	. . LOOP	1	
-62	220C102-1	. . RING ASSEMBLY	1	
	253D392-1	. OXYGEN RELEASE ASSEMBLY (ATTACHING PARTS)	1	
-63	AN515C4R5	. SCREW, Round hd (Note 5)	1	
-64	AN515C4R12	. SCREW, Round hd (Note 5)	2	
-65	AN960C4L	. WASHER, Flat	2	
-66	NAS620-5L	. WASHER ---*---	1	
-67	253B398-11	. STANDOFF	1	
-68	253B398-13	. STANDOFF	1	
-69	MS18063-1	. . SETSCREW (-4-40 x .125 lg)	1	
-70	102C388-11	. . ADJUSTER	1	
	253C395-1	. . LINK ASSEMBLY, Automatic release	1	
-71	8-04052	. . . BALL, Swage (11328)	2	
	EW54001	. . . BALL, Swage (30941)	2	
-72	102C395-15	. . . LINK, Terminal	1	
-73	253C395-11	. . . CABLE (Note 3)	1	
-74	102C389-11	. . COVER, Pulley recess	1	
-75	MS24693-S3	. . SCREW, Machine (Note 5)	1	
-76	102C391-11	. . PULLEY	2	
-77	MS9164-066	. . PIN	1	
-78	102D393-11	. . HOUSING, Machined	1	
-79	253C645-11	. FITTING, Rear (ATTACHING PARTS)	2	
-80	253B646-11	. PIN, Rear attachment	2	
-81	221B648-11	. WASHER, Anti-chafe	2	
-82	K19301-4	. WASHER, Self-aligning (15653)	2	
	EW43001	. WASHER, Self-aligning (30941)	2	
-83	H19300-4	. NUT, Self-aligning (15653)	2	
	EW42007	. NUT, Self-aligning (30941) ---*---	2	
-84	230C535-15	. LATCH, Lid (ATTACHING PARTS)	2	
-85	MS51958-63	. SCREW, Machine-pan head (Note 5)	4	
-86	AN960C10L	. WASHER, Flat ---*---	4	
-87	253C241-11	. PLATE, LH	1	
-88	253C243-11	. PLATE, RH (ATTACHING PARTS FOR INDEX NOS. 87, 88)	1	
-89	MS51958-64	. SCREW, Machine-pan head	3	
-90	AN960C10L	. WASHER, Flat	3	
-91	F22K1-02	. NUT, Cap (82156)	3	
	EW42001	. NUT, Cap (30941) ---*---	3	

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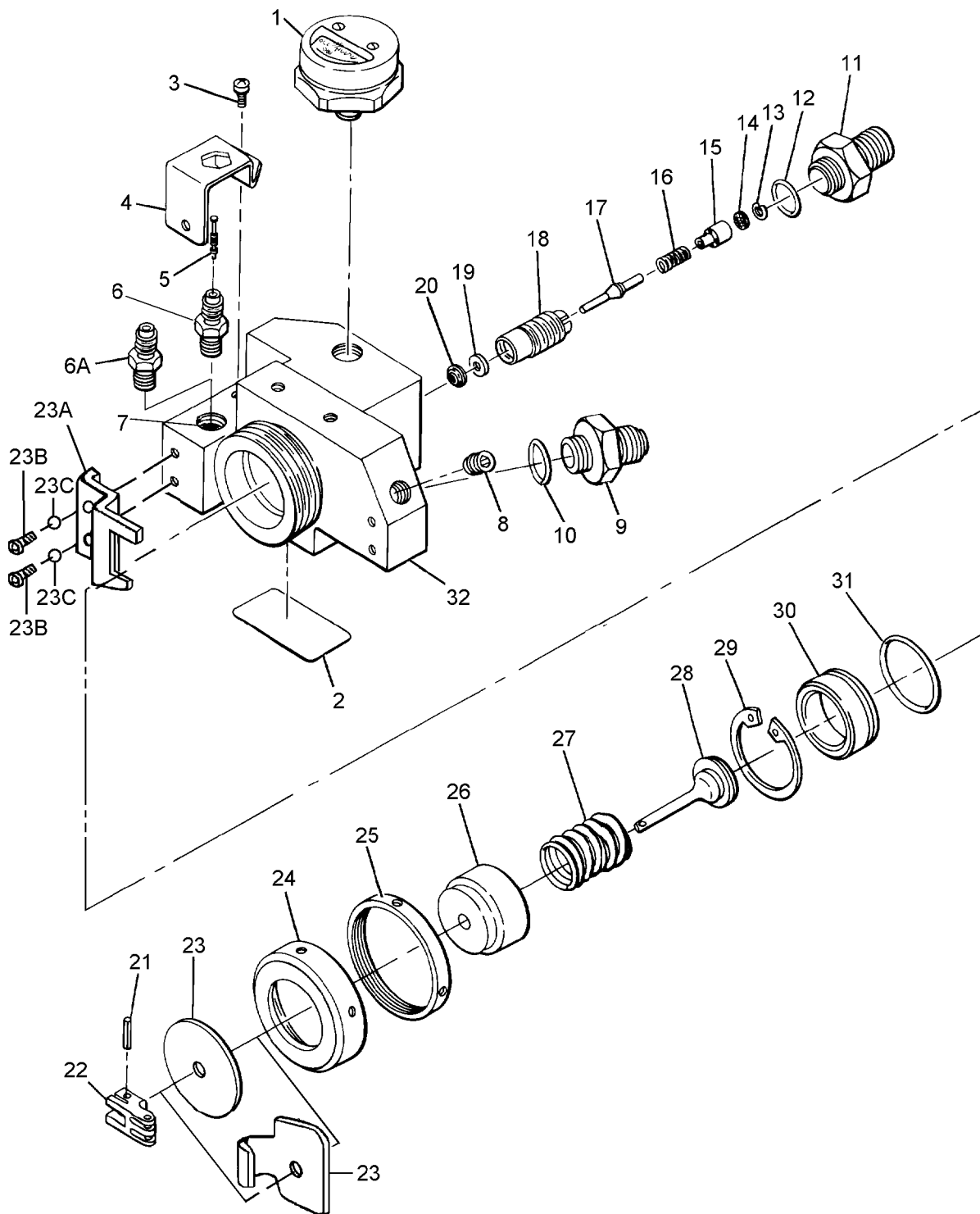
Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
4-21-92	253C640-11	. BRACKET, LH	1	
-93	253C642-11	. BRACKET, RH	1	
		(ATTACHING PARTS FOR INDEX NOS. 92, 93)		
-94	MS51958-63	. SCREW, Machine-pan head	4	
-95	AN960C10L	. WASHER, Flat	4	
-96	F22K1-02	. NUT, Cap (82156)	4	
	EW42001	. NUT, Cap (30941)		
		---*---		
-97	MS27983-5N	. FASTENER, Eyelet	6	
-98	MS27983-3N	. FASTENER, Stud	6	
		(ATTACHING PARTS FOR INDEX NOS. 97, 98)		
-99	TBD	. SCREW, Pan head (3-56 UNF-2A x 3/8)	6	
	EW41002	. SCREW, Pan head (3-56 UNF-2A x 3/8)	6	
		(30941)		
-100	NAS620-5L	. WASHER	6	
		---*---		
-101	102D125-1	. HINGE ASSEMBLY, LH	1	
		(ATTACHING PARTS)		
-102	MS20470AD3-8	. RIVET, Solid-universal hd	3	
		---*---		
-103	102D125-5	. HINGE ASSEMBLY, RH	1	
		(ATTACHING PARTS)		
-104	MS20470AD3-8	. RIVET, Solid-universal hd	4	
		---*---		
-105	221B710-11	. HANDLE, Carrying	1	
		(ATTACHING PARTS)		
-106	MS20470A4-9	. RIVET, Solid-universal hd	4	
-107	221B711-11	. RETAINER, Handle	2	
-108	AN960C4	. WASHER, Flat	4	
		---*---		
-109	102C281-11	. PLATE, Backup	2	
-110	MS20470AD3-5	. RIVET, Solid-universal hd	6	
		---*---		
-111	102B334-11	. PLUG, Protective	1	
-112	204B201-11	. WINDOW, Gage	1	
-113	220C114-17	. PILE	1	
-114	253J222-1	. LID ASSEMBLY, Machined	1	
	Notes: 1. Install cotter pin in accordance with MS33540. 2. Deleted. 3. Deleted. 4. Make from Cres, 7 x 7, 0.074 inch diameter cable, CAGE 13792. 5. Apply VC-3 (CAGE 04866) thread locking compound to 50 percent of threads.			



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Figure 4-22. Manifold Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
4-22	253D317-1	MANIFOLD ASSEMBLY (See Figure 4-22 for NHA)	REF	
-1	EW63004 P103-673	RELIEF VALVE (30941) (Note 2)	1	
		RELIEF VALVE (91816) (Alternate for EW63004)	1	
-2	MS9068-012	O-RING	1	
-3	221B320-11	NIPPLE, Union manifold	1	
-4	MS9068-011	O-RING	1	
-5	3104AS100-1	CHECK VALVE (Note 2)	2	
-6	MS9068-012	O-RING	2	
-7	MS21209F1-15	HELICAL COIL INSERT (Note 1)	2	
-8	253D319-11	MANIFOLD BODY	1	
Notes:		1. Install Heli-coil insert per MS33537 or equivalent. 2. Torque to a value of 70 ± 5 in-lbs.		



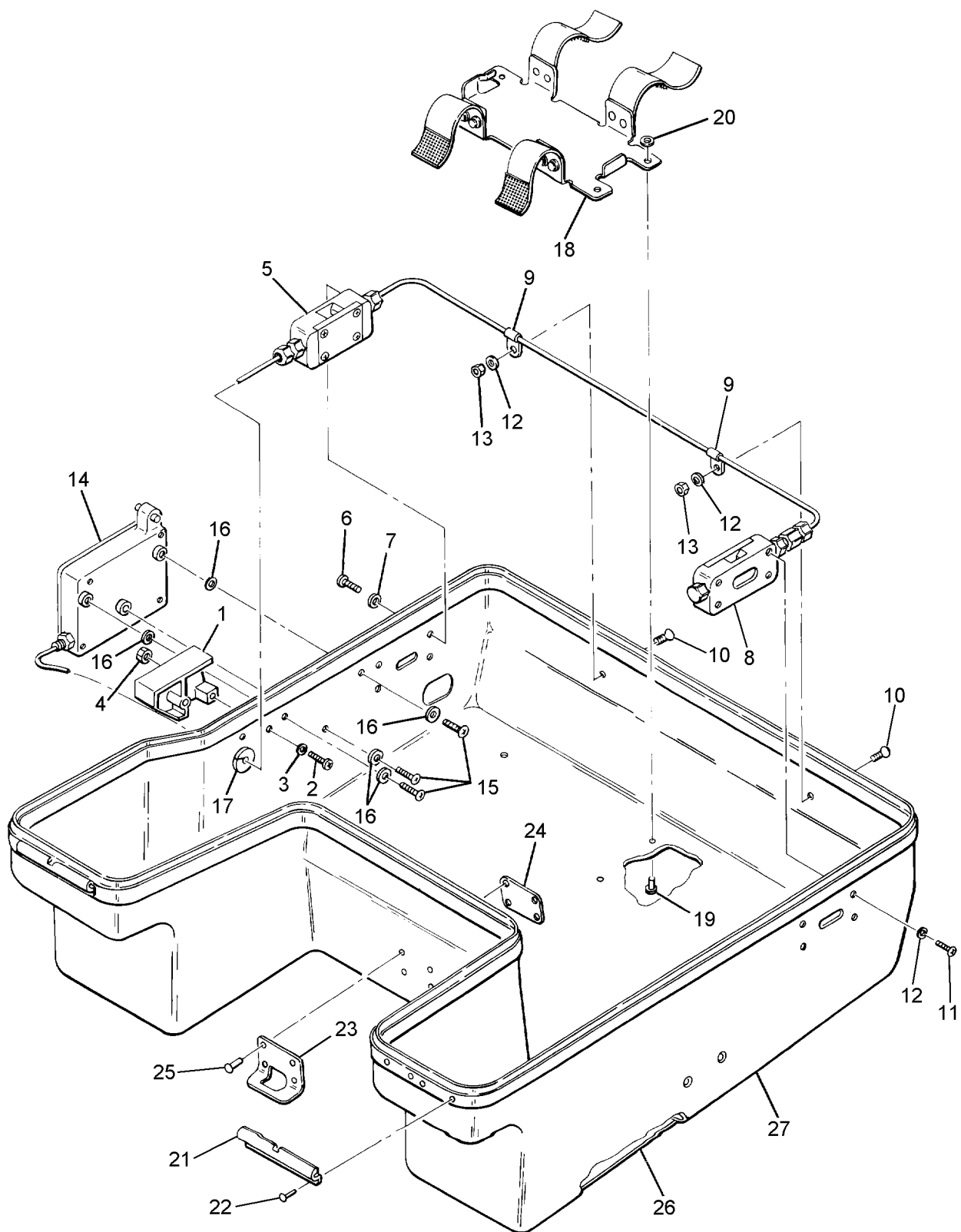
63-936

Figure 4-23. Reducer Assembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-23	216D800-1	REDUCER ASSEMBLY (See Figure 4-21 for NHA)	REF	A
	216D800-5	REDUCER ASSEMBLY (30941) with toggle modification incorporated (Note 7)	REF	B
-1	MIL-G-7601A EW68001	. OXYGEN GAGE, Type L-2 OXYGEN GAGE, Type L-2 (30941)	1 1	
-2	216B826-11 216B826-15	. PLATE IDENTIFICATION PLATE IDENTIFICATION	1 1	A B
-3	MS35206-225	. SCREW, Machine-pan head (Note 2)	2	
-4	221C870-11 221B380-1	. RETAINER VALVE ASSEMBLY, Filler (Note 1)	1 1	
-5	EW63001	. . VALVE CORE (30941)	1	
-6	102C383-11	. . BODY VALVE	1	
-7	204B419-11	. FILTER	1	
-8	AN932S1	. PLUG, Counter sink hex head pipe (Note 1)	1	
-9	MS21900-J4	. ADAPTER	1	
-10	MS9068-012	. O-RING (Note 3)	1	
-11	221B840-11	. NIPPLE UNION	1	
-12	MS9068-011	. O-RING (Note 3)	1	
-13	MS16625-4025	. RING, Retaining	1	
-14	102B819-11	. FILTER (Note 4)	1	
-15	102B818-11	. GUIDE, Poppet	1	
-16	102B814-11	. SPRING, Poppet	1	
-17	102B817-11	. POPPET	1	
-18	102C815-11	. RETAINER (Note 5)	1	
-19	102B828-11	. STOP, Back-up ring	1	
-20	102B816-11	. SEAT (Note 5)	1	
-21	MS171435	. SPRING PIN	1	
-22	221C303-15	. TOGGLE	1	
-23	233B823-11 233D341-11	. SPACER SPACER, Anti-cocking	1 1	A B
-23A	—	. BRACKET, Anti-rotation (ATTACHING PARTS)	1	B
-23B	—	. SCREW	2	B
-23C	—	. WASHER ---*---	2	B
-24	233C829-11	. CAP, Adjust	1	
-25	233C830-11	. LOCK RING	1	
-26	233C820-11	. GUIDE, Piston	1	
-27	233B831-11	. SPRING, Reference	1	
-28	102C824-11	. PLUNGER	1	
-29	N5000-102H EW48001	. RETAINING RING (79136) RETAINING RING (30941)	1 1	
-30	102C821-11	. PISTON	1	
-31	MS28775-117	. O-RING (Note 3)	1	
-32	216D811-11	. REDUCER BODY	1	

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Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
		Notes: 1. To assemble pipe threaded parts use Teflon tape 1/2-in. wide conforming to MIL-T-27730 coating to be applied according to instructions specified in MIL-T-27730. 2. Apply VC-3 (CAGE 04866) thread locking compound to screw threads. 3. Lubricate packings and mating surfaces with KRYTOX 240 AZ (CAGE 82348) fluorinated grease. 4. Install coarse mesh near side. 5. Torque retainer to 32 to 35 inch-pounds during assembly. 6. Position face of seat against V notch of stop. 7. This configuration is a manufacturer modification and not a requirement.		



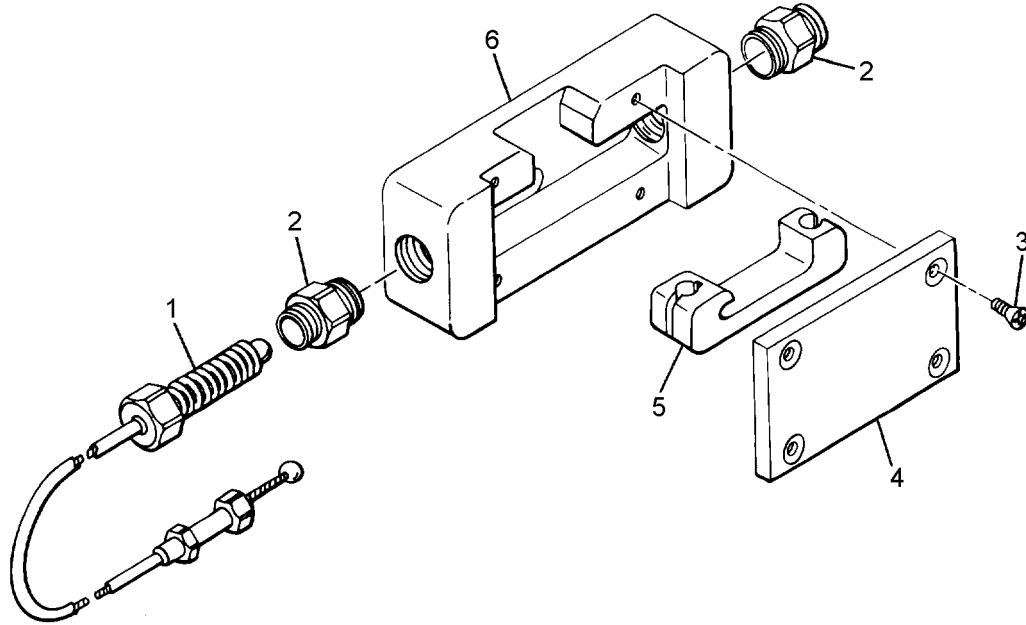
63-1236

Figure 4-24. Lower Container Assembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-24	253J400-101	CONTAINER ASSEMBLY, Lower (See figure 4-20 for NHA) (supersedes P/N 253J400-1)	REF	
	253J400-1	CONTAINER ASSEMBLY, Lower (superseded by P/N 253J400-101)	REF	
-1	234C450-11	. HANDLE PROTECTOR (ATTACHING PARTS)	1	
-2	MS35206-232	. SCREW	2	
-3	AN960C4	. WASHER	2	
-4	MS21042-06	. NUT	2	
		---*---		
-5	221C540-1	. LOCK ASSEMBLY, RH (See figure 4-25 for BKDN) (ATTACHING PARTS)	1	
-6	MS51958-62	. SCREW (No. 10-32 x 0.438 lg)	4	
-7	AN960C10L	. WASHER	4	
		---*---		
-8	253C520-1	. LOCK ASSEMBLY, LH (See figure 4-26 for BKDN)	1	
-9	MS25281-F2	. CLAMP, Loop plastic	2	
-10	MS51960-65	. SCREW	2	
-11	MS51958-62	. SCREW (No. 10-32 x 0.438 lg)	4	
-12	AN960C10L	. WASHER	6	
-13	22K1-02	. NUT (82156)	2	
	EW42001	. NUT (30941)	2	
		---*---		
-14	221D580-1	. LID LOCK RELEASE ASSEMBLY (See figure 4-27 for BKDN) (ATTACHING PARTS)	1	
-15	MS51958-62	. SCREW (No. 10-32 x 0.438 lg)	3	
-16	AN60C10L	. WASHER	5	
		---*---		
-17	MS35489-34	. GROMMET, Rubber	1	
-18	102D450-3	. RADIO BRACKET ASSEMBLY (ATTACHING PARTS)	1	
-19	MS20426A4-6	. RIVET, Solid countersunk (0.125 dia x 0.375 lg)	4	
-20	AN960C4	. WASHER	4	
		---*---		
-21	102D125-13	. HINGE (ATTACHING PARTS)	2	
-22	MS20470AD3-8	. RIVET, Solid hd	8	
		---*---		
-23	BX20042	. FITTING, Negative-g (Note 1)	1	A
	253C413-11	. FITTING, Negative-g (Note 2)	1	B
-24	253B423-13	. PLATE, Back-up (Note 1)	1	A
	253B423-11	. PLATE, Back-up (Note 2) (ATTACHING PARTS FOR INDEX NOS. 23, 24)	1	B
-25	MS20470AD4-7	. RIVET, Solid-universal hd (Note 1)	3	A
	MS20470AD4-7	. RIVET, Solid-universal hd (Note 2)	4	B
		---*---		

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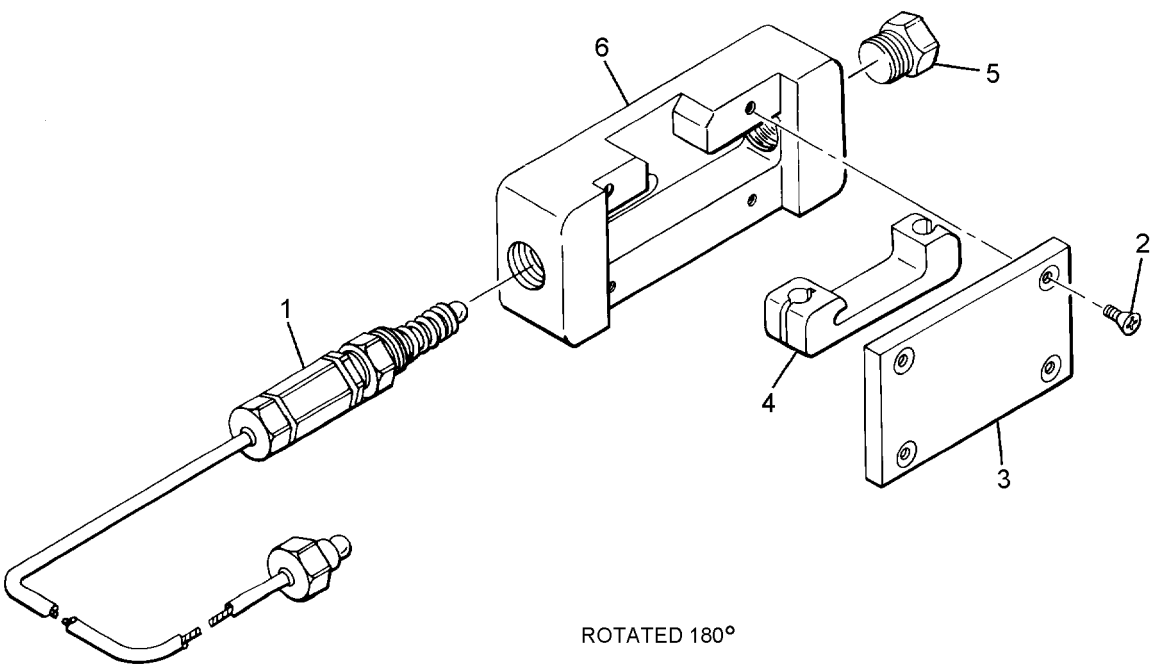
Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-24-26 -27	253D460-11	. PAD	1	
	253J422-1	. CONTAINER, Machined	1	
	Notes: 1. Components with Usable On Code A may be found on SKU-3/A Survival Kits with serial no. 001 thru 0044. 2. Components with Usable On Code B may be found on SKU-3/A Survival Kits with serial no. 0045 thru 9999.			



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Figure 4-25. Lock Assembly RH

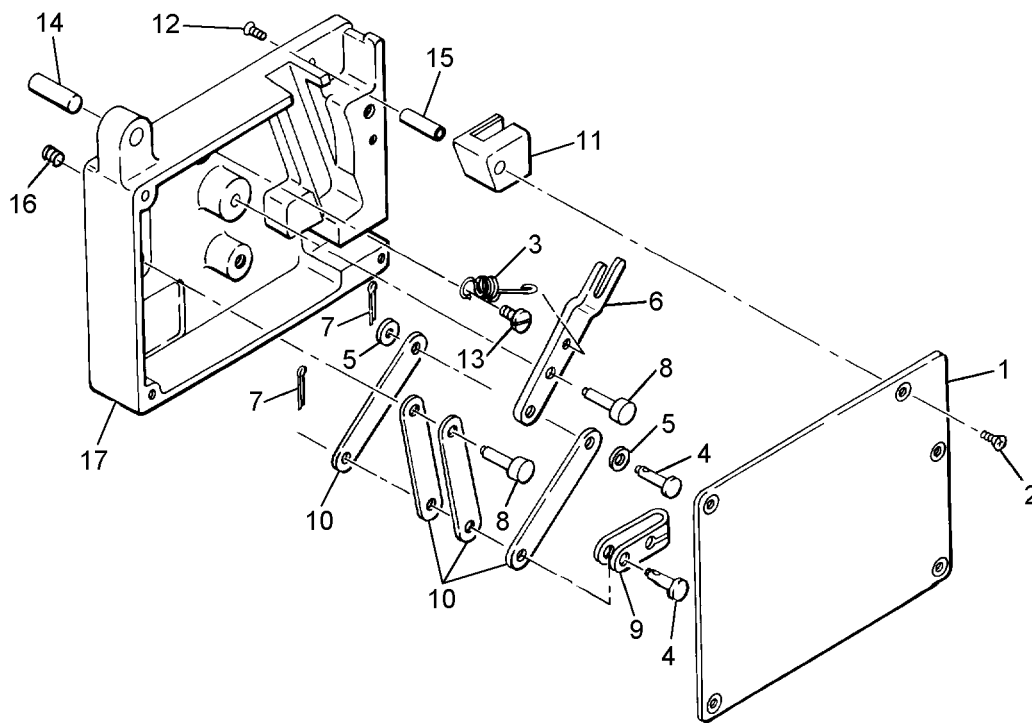
Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
4-25	221C540-1	LOCK ASSEMBLY, RH (See figure 4-24 for NHA)	REF	
-1	221D560-1	. CABLE ASSEMBLY, Right	1	
-2	102C527-13	. NIPPLE	2	
-3	MS24693-C3	. SCREW, Flat head (No. 4-40 x 0.312 lg) (Note 1)	4	
-4	102C523-11	. COVER (Note 2)	1	
-5	221C522-11	. SLIDE	1	
-6	102C519-1	. HOUSING ASSEMBLY	1	
		Notes: 1. After final adjustments to lock assemblies, apply VC-3 (CAGE 04866) thread locking compound to screw threads and install cover. 2. Install cover loosely.		



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Figure 4-26. Lock Assembly LH

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
4-26	253C520-1	LOCK ASSEMBLY, LH (See figure 4-24 for NHA)	REF	
-1	253C570-1	. CABLE ASSEMBLY, Rear	1	
-2	MS24693-S3	. SCREW, Flat head (No. 4-40 x 0.312 lg) (Note 1)	4	
-3	102C523-11	. COVER (Note 2)	1	
-4	221C522-11	. SLIDE	1	
-5	102C526-11	. PLUG	1	
-6	102C519-1	. HOUSING ASSEMBLY	1	
		Notes: 1. After final adjustments to lock assemblies, apply VC-3 (CAGE 04866) thread locking compound to screw threads and install cover. 2. Install cover loosely.		



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Figure 4-27. Lid Lock Release Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
4-27	221D580-1	LID LOCK RELEASE ASSEMBLY	REF	
		(See figure 4-24 for NHA)		
-1	102C597-11	. COVER (Note 1)	1	
		(ATTACHING PARTS)		
-2	MS24693-C3	. SCREW, Flat head (4-40) (Note 2)	5	
		---*---		
-3	102C584-11	. SPRING, Toggle	1	
-4	MS9462-05	. PIN, Clevis	2	
-5	AN960C6	. WASHER, Flat	2	
-6	102C583-13	. LEVER, Actuating	1	
-7	MS24665-1011	. PIN, Cotter (0.312 lg)	2	
-8	102C596-11	. PIN, Pivot (0.312 dia x 0.06 lg)	2	
-9	221C581-13	. CLEVIS	1	
-10	102C582-11	. LINK TOGGLE	4	
-11	102C589-11	. GUIDE	1	
	102C588-1	. HOUSING INSERT ASSEMBLY	1	
-12	MS24693-S3	. . SCREW, Flat head (4-40) (Note 3)	1	
-13	COML	. . SCREW (70318) (No. 4-40 UNC-3A	1	
		x 0.312 in. lg) (Note 3)		
	EW41001	. . SCREW (4-4 UNC-3A x 0.312 in. lg)	1	
		(30941) (Note 3)		
-14	MS9390-421	. . PIN, Straight (Dia 0.252 x 0.05 lg)	1	
-15	102C594-11	. . STANDOFF	1	

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Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
4-27-16 -17	MS21209F1-15	. . . HELICAL COIL INSERT (For no. 10 x 32 x 0.0285 lg) (Note 4)	3	
	102D587-11	. . . HOUSING, Machined lid lock release (Note 5)	1	
	Notes: 1. Install cover loosely. 2. After final adjustments, apply VC-3 (CAGE 04866) thread locking compound to screw threadsand install cover. 3. Apply VC-3 (CAGE 04866) thread locking compound to screw thread. 4. Install Heli-coil inserts per MS33537 and remove tangs. 5. Apply 5306 (CAGE 85932) solid film lubricant per MIL-L-8937 to toggle link contact surfaces.			

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AN515C4R5	4-21-63	PAGZZ
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AN932S1	4-23-8	PAGZZ
AN932S2	4-21-33	PAGZZ
AN960C6	4-27-5	
AN960C10L	4-21-14	PAGZZ
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EW42007	4-21-83	
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K19301-4	4-21-82	PAGZZ
LT100TY2-1-250	4-20-28	
LT100TY2-500	4-20-27	
MBEU66999-2	4-19-2	PAOZZ
MBEU66999-3	4-19-2	PAOZZ
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MS15795-802	4-21-5	PAGZZ
MS16535-89	4-21-10	PAGZZ
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MS16625-4025	4-23-13	PAGZZ
MS171435	4-23-21	PAGZZ
MS18063-1	4-21-69	PAGZZ
MS20426A4-6	4-24-19	PAGZZ
MS20470AD3-8	4-21-102	PAGZZ
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MS20470AD4-7	4-24-25	PAGZZ
MS20470AD3-5	4-21-110	PAGZZ
MS20470AD3-8	4-21-104	PAGZZ
MS20470A4-9	4-21-106	PAGZZ
MS20819-4D	4-21-17	PAGZZ
MS21042-06	4-24-4	PAGZZ
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MS21919DG4	4-21-12	PAGZZ
MS24665-1011	4-27-7	PAGZZ
MS24665-88	4-21-34	PAGZZ
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MS24693-S3	4-21-75	PAGZZ
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MS25281-F2	4-24-9	PAGZZ
MS27983-1N	4-20-2	PAGZZ
MS27983-2N	4-20-3	PAGZZ
MS27983E-3N	4-21-98	PAGZZ
MS27983-5N	4-21-97	PAGZZ
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MS35206-225	4-23-3	PAGZZ
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MS51958-62	4-20-11	PAGZZ

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MS51958-64	4-21-28	PAGZZ	102C526-11	4-26-5	PAGZZ
	4-21-89		102C527-13	4-25-2	PAGZZ
MS51958-65	4-21-21	PAGZZ	102C582-11	4-27-10	
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MS51960-64	4-20-21	PAGZZ	102C589-11	4-27-11	
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MS5198-62	4-24-6	PAGZZ	102C597-11	4-27-1	
MS9068-011	4-22-4	PAGZZ	102C815-11	4-23-18	XBGZZ
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MS9068-012	4-22-2	PAGZZ	102C824-11	4-23-28	XBGZZ
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MS9390-421	4-27-14		102D393-11	4-21-78	XAGZZ
MS9462-05	4-27-4	PAGZZ	102D450-3	4-24-18	PAGZZ
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NAS620-5L	4-21-66	PAGZZ	102D499-17	4-20-24	MDGZZ
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P103-673	4-22-1		102D587-11	4-27-17	
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102B334-11	4-21-111	PAGZZ	204B419-11	4-23-7	PAGZZ
102B814-11	4-23-16	PAGZZ	216B826-11	4-23-2	MDGZZ
102B816-11	4-23-20	PAGZZ	216B826-15	4-23-2	MDGZZ
102B817-11	4-23-17	PAGZZ	216D800-1	4-21-35	PAGGG
102B818-11	4-23-15	PAGZZ	216D800-1	4-23	
102B819-11	4-23-14	PAGZZ	216D800-5	4-21-35	
102B828-11	4-23-19	PAGZZ		4-23	
102C101-11	4-20-20	PAGZZ	216D811-11	4-23-32	XAGZZ
102C101-13	4-20-10	PAGZZ	22K1-02	4-20-9	PA---
102C281-11	4-21-109	MGGZZ		4-20-22	
102C381-11	4-21-8			4-24-13	
102C383-11	4-23-6	PAGZZ	220B116-13	4-21-61	
102C388-11	4-21-70	PAGZZ	220B116-21	4-21-59	
102C389-11	4-21-74	PAGZZ	220C102-1	4-21-62	
102C391-11	4-21-76	PAGZZ	220C114-17	4-21-113	MGGZZ
102C394-11	4-21-58		221B210-11	4-20-7	PAOZZ

NUMERICAL INDEX (CONT)

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221B282-11	4-21-9	
221B283-1	4-21-3	
221B320-11	4-22-3	PAGZZ
221B321-11	4-21-24	MGGZZ
	4-21-38	
221B322-13	4-21-32	XBGZZ
221B380-1	4-23-4	XGGGG
221B382-11	4-21-11	
221B648-11	4-21-81	PAGZZ
221B691-11	4-20-8	PAOZZ
221B710-11	4-21-105	MGGZZ
221B711-11	4-21-107	MGGZZ
221B840-11	4-23-11	PAGZZ
221C280-1	4-21	PAGZZ
221C303-15	4-23-22	PAGZZ
221C522-11	4-25-4	PAGZZ
	4-25-5	
221C540-1	4-24-5	PAGGG
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221C581-13	4-27-9	
221C870-11	4-23-4	MGGZZ
221D560-1	4-25-1	PAGZZ
221D580-1	4-24-14	PAGZZ
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230C535-15	4-21-84	PAGZZ
233B823-11	4-23-23	XBGZZ
233B831-11	4-23-27	PAGZZ
233C820-11	4-23-26	XBGZZ
233C829-11	4-23-24	XBGZZ
233C830-11	4-23-25	XBGZZ
233D341-11	4-23-23	
234C450-11	4-24-1	PAGZZ
235D200-3	4-21-25	PAGZZ
253B398-11	4-21-67	XBGZZ
253B398-13	4-21-68	
253B423-11	4-24-24	
253B423-13	4-24-24	
253B646-11	4-21-80	PAGZZ
253C241-11	4-21-87	MDGZZ
253C243-11	4-21-88	
253C336-1	4-21-55	PAGZZ
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253C363-1	4-21-40	PAGZZ
253C364-5	4-21-41	
253C395-1	4-21	PAGZZ
253C395-11	4-21-73	

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253C520-1	4-24-8	
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253C570-1	4-26-1	
253C640-11	4-21-92	XBGZZ
253C642-11	4-21-93	XBGZZ
253C645-11	4-21-79	PAGZZ
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253D317-1	4-21-19	XBGZZ
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253D319-11	4-22-8	PAGZZ
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253D670-17	4-20	
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253D670-21	4-20-5	
253D670-23	4-20-6	
253D670-3	4-20	
253D680-1	4-20-6	AGGGG
253D680-2	4-20-6	AGGGG
253D690-1	4-20-13	PAGZZ
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253J100-1	4-19-3	PAOGDM
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253J222-1	4-21-114	XAGZZ
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74A800103-1001	4-19	
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CHAPTER 5

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CHAPTER 6

SKU-6/A SEAT SURVIVAL KIT

Section 6-1. Description

6-1. GENERAL.

6-2. The SKU-6/A Seat Survival Kit Assembly is designed for use with the SJU-4/A Aircrew Automated Escape System and functions as a seat for the aircrewmember as well as a platform for mounting emergency oxygen and other survival items (figures 6-1 and 6-2). The SKU-6/A Seat Survival Kit Assembly P/N 14070-3 is supplied by Stencel Aero Engineering Corp. (CAGE 24632) and manufactured by East/West Industries.

6-3. CONFIGURATION.

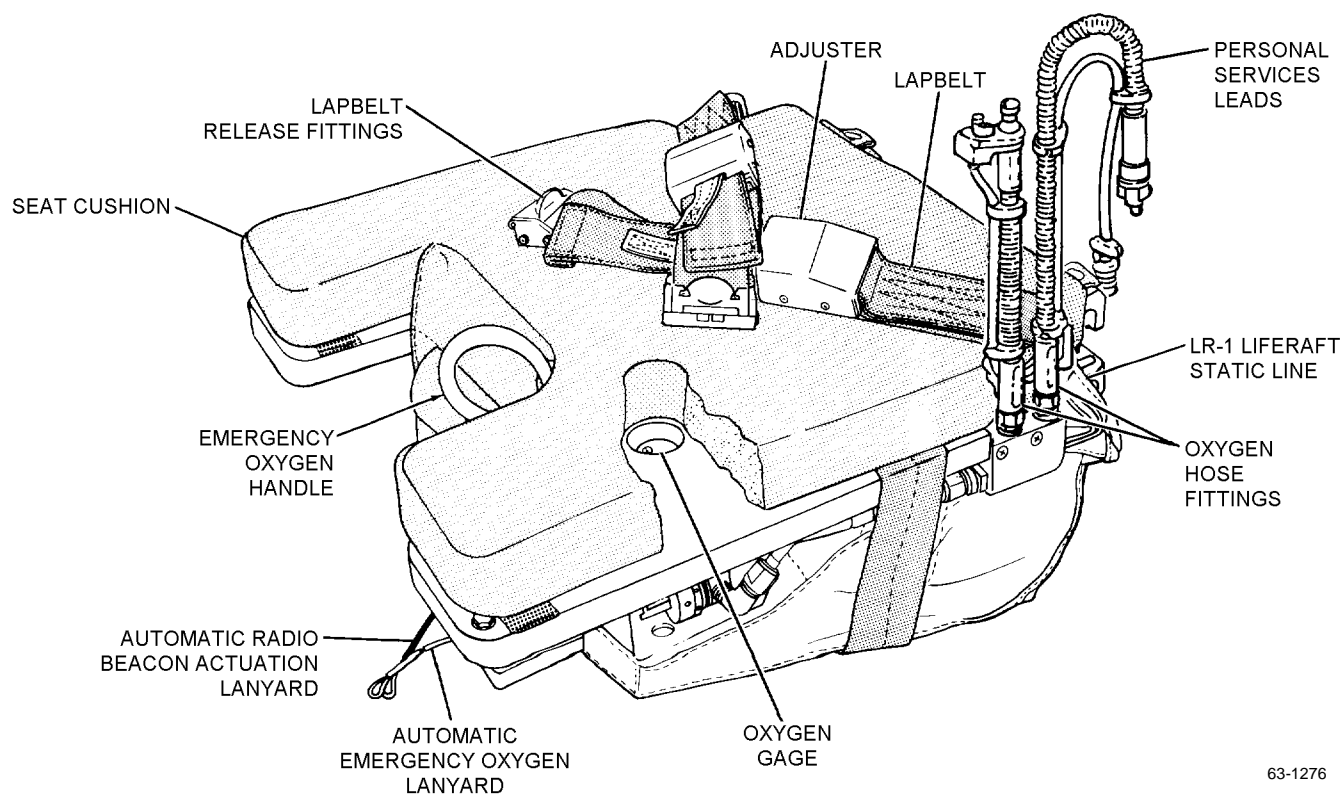
6-4. The SKU-6/A Seat Survival Kit Assembly consists of a bonded aluminum honeycomb seat panel, an emergency oxygen system, an AN/URT-33A radio beacon, a rucksack/survival package assembly, and a seat cushion. The seat panel is the primary SKU-6/A Seat Survival Kit Assembly structure and functions as the sitting platform for the aircrewmember as well as a mounting platform for survival gear and emergency oxygen system. Two lapbelts are attached to the seat panel at the aft outboard edges and are fitted with connectors which are attached to the aircrewmember's torso harness. The AN/URT-33A radio beacon is mounted on the top side of the seat panel. A flexible oxygen and communications hose assembly is installed on the aft left side of the upper seat panel assembly and provides a connection for communications and oxygen functions between the aircraft and crewmembers. In the event of a failure of the aircraft oxygen system or an ejection, over 10 minutes of emergency oxygen is available. The emergency oxygen system is mounted on the bottom forward side of the seat panel. The system consists of a 100 cubic inch, 1800 psi bottle and gage, a pressure reducer assembly, and two actuation devices. The actuation devices consist of a green-ring for manual actuation

and a quick-disconnect snubbing lanyard for automatic actuation.

6-5. The rucksack/survival package assembly is a fabric container with four flaps, all of which will be secured by the release lanyard assembly. The rucksack/survival package assembly is divided into two compartments. One compartment contains a liferaft and the other compartment contains basic survival items. A liferaft actuation cylinder is attached to the seat pan via a dropline stowed on the exterior of the rucksack/survival package assembly in a series of stowage bights. The rucksack/survival package assembly is installed against the underside of the seat panel and is retained in position by the buckle strap assembly.

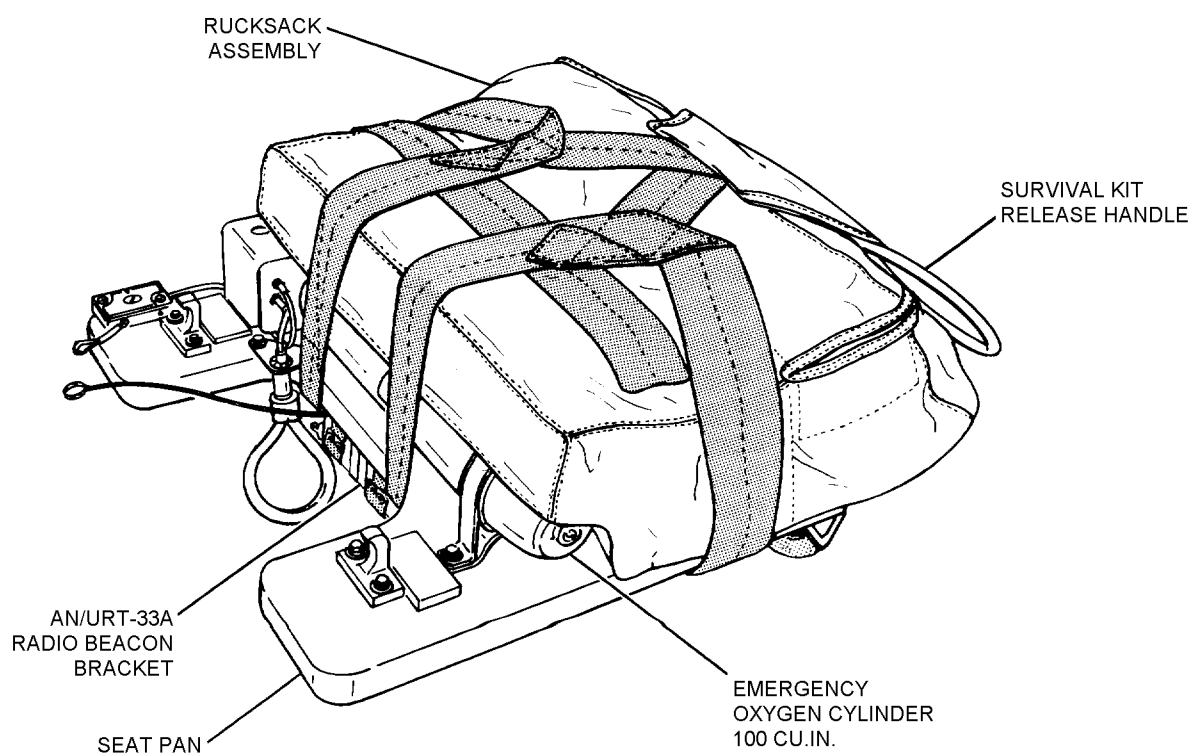
6-6. The buckle strap assembly and the four rucksack/survival package assembly flaps are secured by the release lanyard assembly. The release lanyard assembly consists of two release pins attached by a 1/2-inch lanyard to an orange ring. A fabric cover with hook and pile fastener tape is used to cover the lanyard when not in use. The orange ring remains exposed at the aft right-hand corner for ease of operation.

6-7. The seat cushion is positioned on the upper side of seat panel and is secured in front by two strips of hook and pile fastener tape and two snap fasteners in rear on the seat pan locking lugs. Cutouts in the seat panel and cushion allow viewing of emergency oxygen system gage. Two oxygen hoses, input and output, are attached to the interface assembly on left aft side of seat panel. One end of a communication lead is attached to the output oxygen hose and the other end to a communication quick disconnect mounted on the aircraft cockpit console.



63-1276

Figure 6-1. SKU-6/A (Top)



63-1277

Figure 6-2. SKU-6/A (Bottom)

6-8. SUBASSEMBLIES. The major subassemblies of the SKU-6/A are:

1. Seat Panel Assembly
2. Emergency Oxygen Assembly
3. Rucksack/Survival Package Assembly
4. Seat Cushion Assembly

6-9. REFERENCE NUMBERS, ITEMS AND SUPPLY DATA.

6-10. [Figures 6-14 through 6-20](#) contain data for each assembly, subassembly and component part of the SKU-6/A Seat Survival Kit Assembly. Figure and index number, reference or part number, description and units per assembly are provided.

6-11. APPLICATION.

6-12. The SKU-6/A Seat Survival Kit Assembly is a part of the survival equipment used by aircrewmembers aboard AV-8B aircraft using the SJU-4/A ejection seat.

6-13. FUNCTION.

6-14. SYSTEM OPERATION. Initiation of the aircraft's seat ejection system automatically sets other systems in motion. During the ejection seat's initial movement up the rails, the AN/URT-33A Beacon Radio Set and the Emergency Oxygen System are automatically actuated by quick-disconnect fittings ([figure 6-3](#)). Actuation of the automatic oxygen release opens a metering valve within the pressure reducer of the emergency oxygen system. This permits the flow of emergency oxygen to the aircrewmember. Should automatic actuation fail, emergency oxygen flow may be initiated manually by pulling the green emergency handle located inboard of the aircrewmember's left knee. As the seat continues upward, the aircraft oxygen input hose and communication leads are separated from the aircraft at a quick-disconnect fitting. A check valve at the oxygen input connection point prevents loss of emergency oxygen to the atmosphere ([figure 6-3](#)).

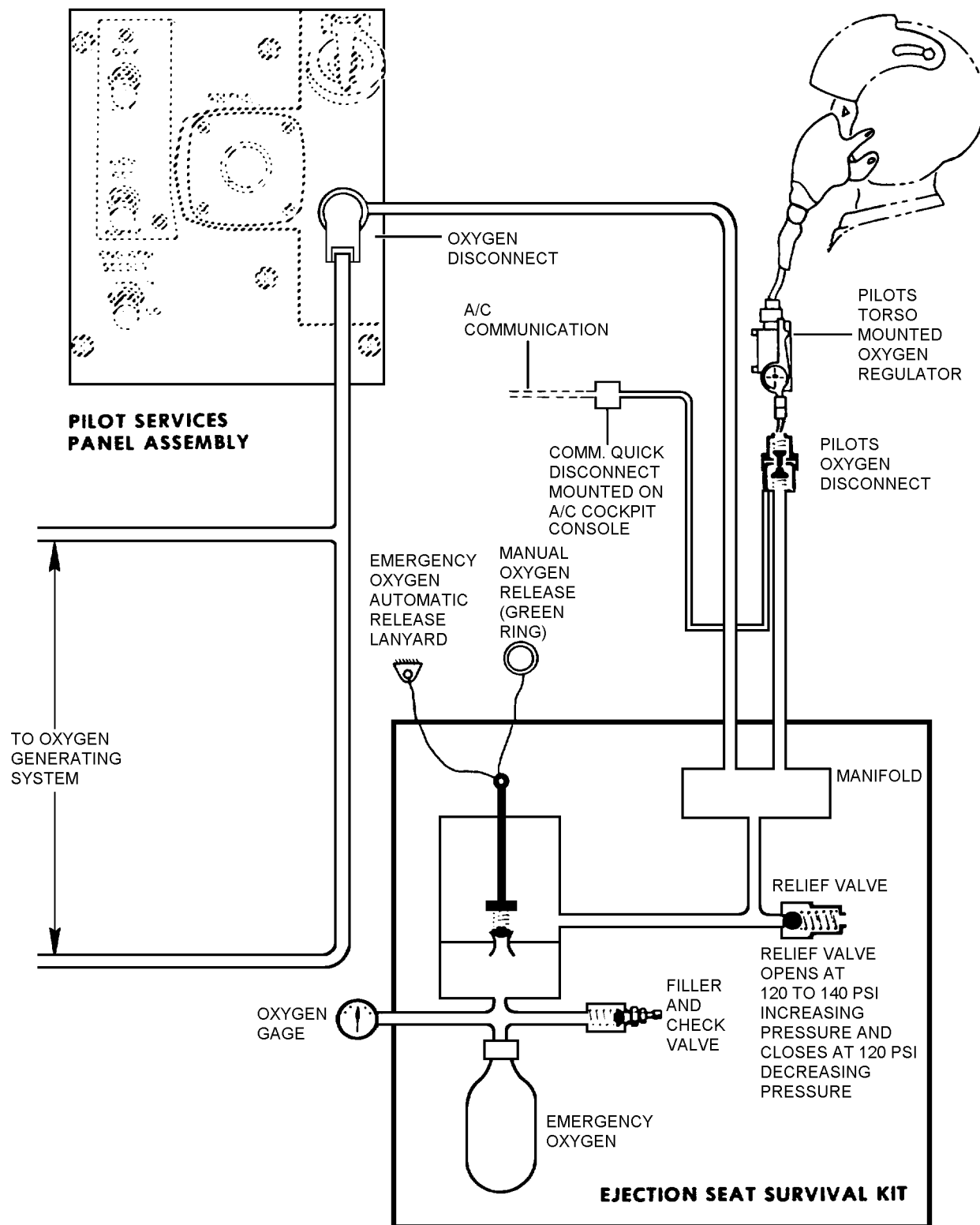


Figure 6-3. SKU-6/A Oxygen System Schematic

63-1278

Section 6-2. Modifications

6-15. GENERAL.

6-16. The SKU-6/A Seat Survival Kit assembly shall be updated by comparing the configuration of the assembly with the directives listed in [table 6-1](#).

Table 6-1. SKU-6A Directives

Description of Modification	Application	Modification Code
Incorporation of ACEL-Compatible OBOGS Hoses	All SKU-6/A Seat Survival Kits	66-489
Incorporation of washer to Automatic Oxygen Release Assembly	All SKU-6/A Seat Survival Kits	66-656/RAMEC 4261-01-99

Section 6-3. Rigging and Packing

6-17. GENERAL.

6-18. Unless operational requirements demand otherwise, rigging and packing of the SKU-6/A shall be accomplished at the Intermediate Level of maintenance by qualified personnel every 448 days.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by Quality Assurance (QA).

6-19. RIGGING AND PACKING PROCEDURES.

NOTE

Unless otherwise specified, orientation of equipment in the following paragraphs will refer to the packer facing the equipment.

6-20. Rigging and packing of the SKU-6/A Seat Survival Kit Assembly is accomplished in six separate operations as follows:

1. Preliminary Procedures
2. Survival Equipment Binding
3. Survival Package Packing
4. Liferaft Folding, Rigging and Packing; Dropline Stowage; and Survival Package Assembly Installation
5. Release Handle Pull Test
6. Installation of Radio Beacon

CAUTION

Ensure the survival kit assembly is rigged and packed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose the survival kit to any oily substances. Do not slide kit on abrasive surfaces or into sharp objects which may damage, puncture or tear the rucksack/survival package or liferaft assembly.

6-21. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-6/A Seat Survival Kit Assembly.

1. Ensure SKU-6/A and components have been inspected in accordance with [Section 6-5](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.

WARNING

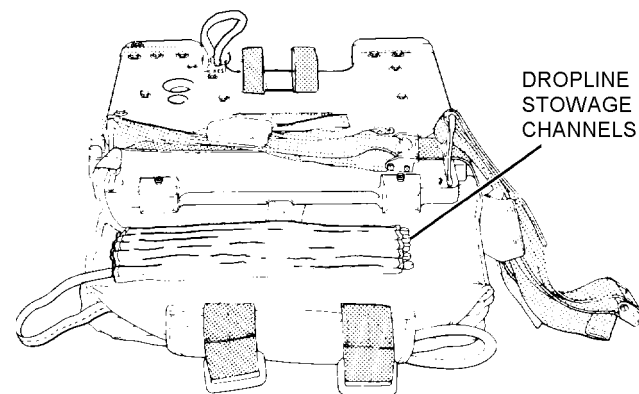
CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

4. Disconnect CO₂ cylinder from liferaft as follows:

- a. Carefully remove liferaft from container
- b. Disconnect actuation line from CO₂ cylinder
- c. Disconnect CO₂ cylinder from liferaft
- d. Remove large loop of drop line from CO₂ cylinders neck.
- e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.



63-1298B

Step 6 - Para 6-21

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 22 feet, 4 inches ± 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of ± 12 inches is acceptable for an older dropline assembly.

7. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 22 feet, 4 inches ± 12 inches.

8. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.

9. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.

10. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of attachment, corrosion, damage, wear, and ease of operation.

6-22. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 before binding. To bind survival items, proceed as follows ([table 6-2](#)).

NOTE

To prevent loss of survival items, tie them individually and then tie them to a 140-inch length of nylon cord. Nylon cord of the prescribed lengths required for this procedure shall be seared at both ends to prevent fraying ([table 6-2](#)). All cord used shall be nylon (MIL-C-5040, Type I).

1. Tie overhand knot in both ends of a 36-inch length of nylon cord. Wrap end of cord two overlapping turns around end of one signal flare. Tie cord using surgeon's knot with the cord-end overhand knot positioned snugly against surgeon's knot.

Table 6-2. Survival Kit Items (Note 1)

Item Name	Quantity	Reference Number
Cord, (Nylon), Fibrous Type I	50 ft	NAVAIR 13-1-6.5
Signal, (Flare), Smoke and Illumination, MK-13 MOD 0 or MK-124 MOD 0 (Note 2)	2	NAVAIR 13-1-6.5
Sea (Dye) Marker, Fluorescent	2	NAVAIR 13-1-6.5
Sponge, (Bailing), Cellulose Type II, Class 2	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet (#1) (Medical) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet (#2) (General) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 5)	Optional	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 4) or	6	NAVAIR 13-1-6.5
Water, Drinking, Emergency (118 ml) (Note 4)	3	NAVAIR 13-1-6.5
Opener, Can, Hand	1	NAVAIR 13-1-6.5
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Blanket, Combat Casualty, (3 oz)	1	NAVAIR 13-1-6.5
Envelope, Packing List	2	NAVAIR 13-1-6.5
Beacon Set, Radio	1	NAVAIR 13-1-6.5
Liferaft, Inflatable	1	NAVAIR 13-1-6.1-1

- Notes:
1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIR-WARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.
 2. MK-13 MOD 0 shall be used until stocks are depleted. MK-124 MOD 0 will replace MK-13 MOD 0 as stocks become available.
 3. SRU-31/P complete kits including Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.
 4. If Bag, Drinking Water (50 ml), is not available, substitute Water, Drinking, Emergency (118 ml), in accordance with NAVAIR 13-1-6.5.
 5. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.

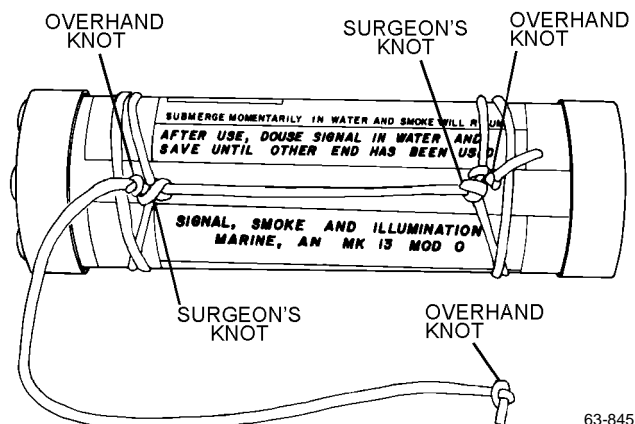
Table 6-3. Nylon Cord Lengths Required for Binding

Length (Inches)	Number Required
140	1
12	6
30	4
36	2

NOTE

Cord between end-ties shall be drawn tight.

2. Route cord to opposite end of signal flare keeping cord tight between ties. Wrap cord two overlapping turns around end of flare and tie using surgeon's knot. Follow surgeon's knot with an overhand knot positioned snugly against surgeon's knot.



Step 2 - Para 6-22

3. Tie second MK-13 MOD 0 signal flare in same manner as [steps 1 and 2](#).

4. Tie overhand knot near both ends of a 12-inch piece of nylon cord. Pass overhand knot through center grommet in dye marker and tie a bowline knot, allowing an approximate 1-inch loop. Bowline knot shall be snugly against cord-end overhand knot.



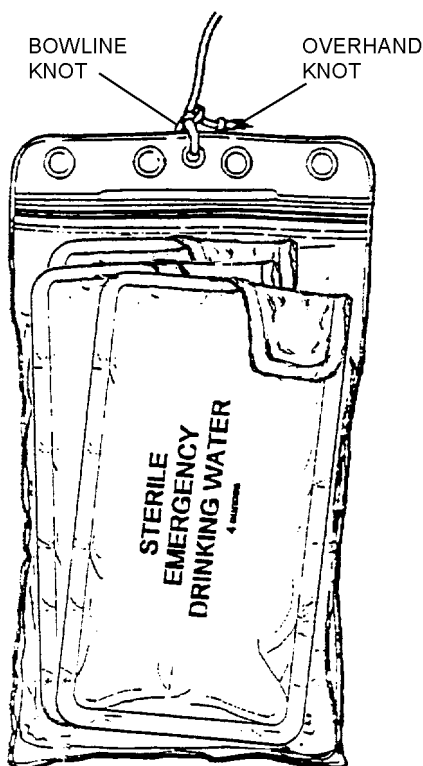
Step 4 - Para 6-22

5. Tie second sea dye marker in same manner as [step 4](#).

NOTE

Replacement rate of canned water with bagged emergency water shall be in accordance with NAVAIR 13-1-6.5. Bagged water shall be stowed in the same order as canned water and in a flat configuration.

6. Bagged water. Place a maximum of three 4-ounce bagged emergency drinking water flat inside a clear vinyl envelope (MIL-B-117) with pour spout folded down. Bagged water must be able to fit into envelope without disrupting the closure of the sealing slide fastener. Using a 12-inch length of cord, tie an overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1-inch loop. Position an overhand knot snugly against the bowline knot. Ensure overhand knot is snug against bowline knot.



63-22

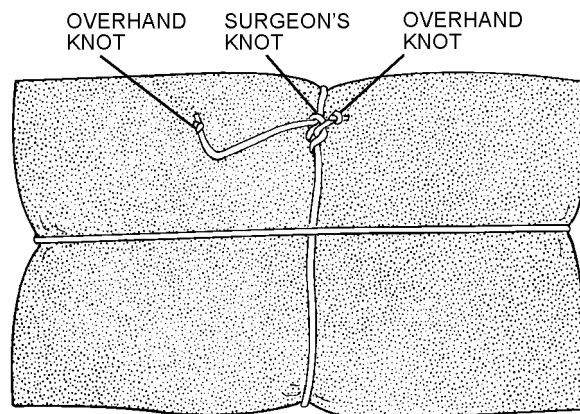
Step 6 - Para 6-22

NOTE

The bailing sponge should be compressed to a minimum thickness by compressing

while damp and then allowing to dry in the compressed state before tying.

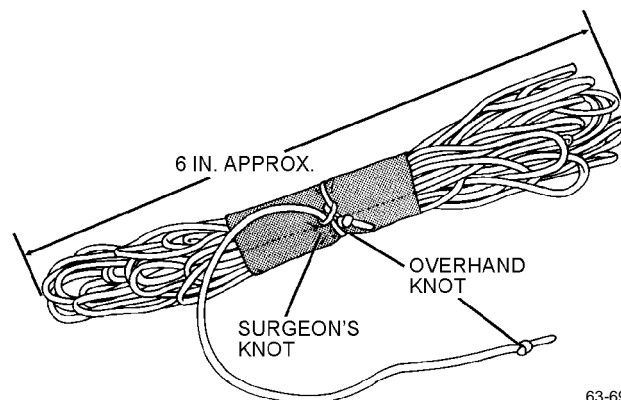
7. Tie overhand knot near ends of a 30-inch length of nylon cord. Wrap cord around sponge until both ends meet, then rotate cord 1/4 turn and wrap cord ends around opposite sides of sponge. Tie using surgeon's knot with cord-end overhand knot positioned snugly against surgeon's knot.



63-698

Step 7 - Para 6-22

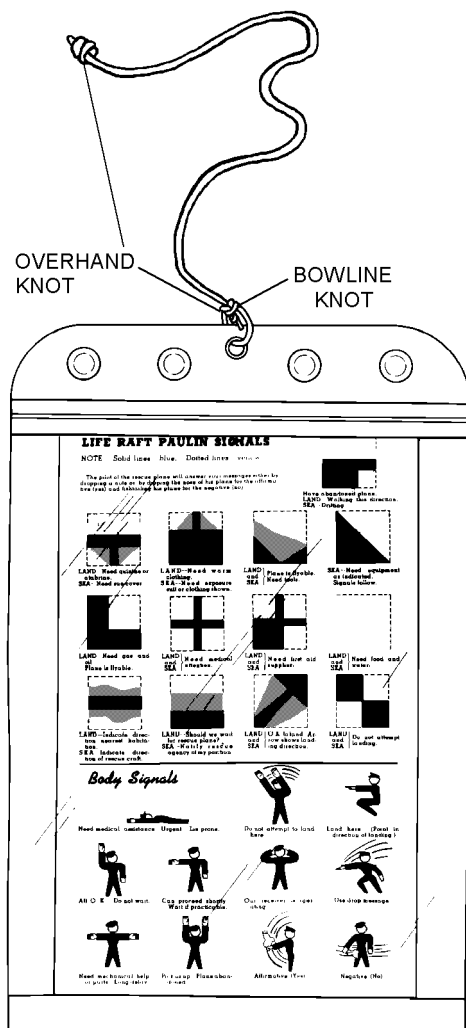
8. Cut one 2- x 3-inch piece of nylon duck material. Accordion-fold 50-foot length of nylon cord in 6-inch bights, and wrap material around center of accordion folded cord. Using 12-inch piece of nylon cord, tie over hand knot near each end and secure one end of cord to center of material with surgeon's knot. Knots shall be positioned with cord-end overhand knot snugly against surgeon's knot.



63-699

Step 8 - Para 6-22

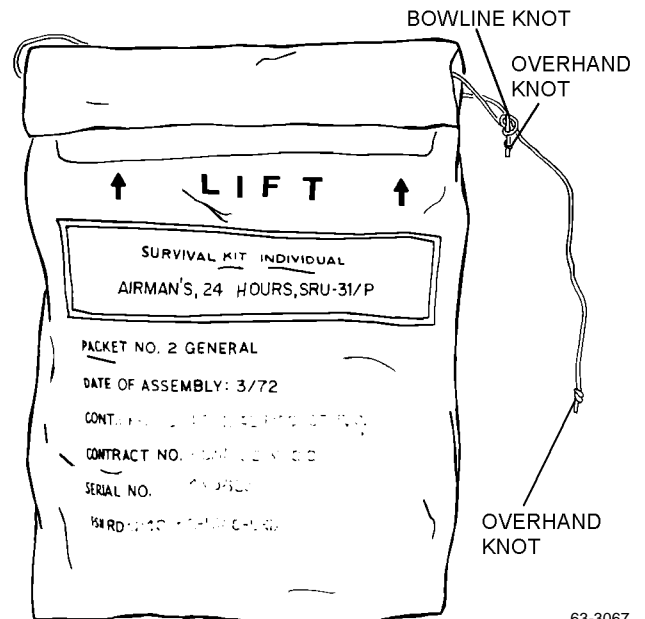
9. Place Ground/Air Emergency Cord Card into clear vinyl plastic envelope (MIL-B-117) and close sealing slide fastener. Using 12-inch piece of nylon cord, tie overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1-inch loop. Ensure knots are positioned with cord-end overhand knot snugly against bowline knot.



63-700

Step 9 - Para 6-22

10. Tie overhand knot in both ends of a 40-inch length of nylon cord. Route one end of the cord through to channel across the top of the packet and tie to form an approximate 7-inch loop. Tie using a bowline knot positioned with the cord-end overhand knot snugly against bowline knot.

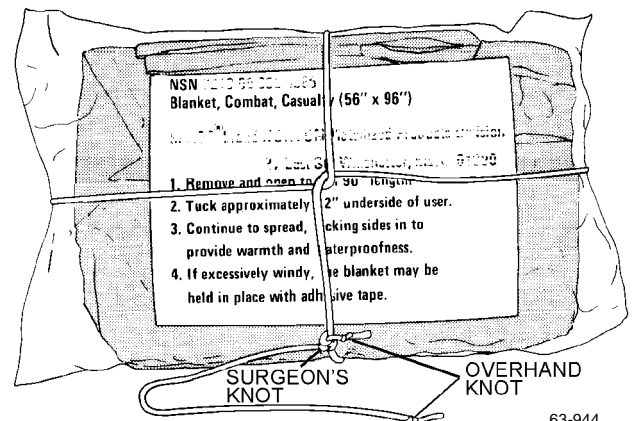


63-3067

Step 10 - Para 6-22

11. Secure second SRU-31/P packet in same manner as step 10.

12. Tie overhand knot in each end of a 30-inch length of nylon cord. Wrap cord around combat casualty blanket. Rotate cord 1/4 turn as shown and wrap cord ends around opposite side of blanket. Tie with surgeon's knot. Ensure that overhand knot is snugly against surgeon's knot.



63-944

Step 12 - Para 6-22

13. Ensure survival items are properly tied.

14. Tie overhand knot in each end of a 12-inch length of nylon cord. Pass overhand knot through hole in can opener, and tie a bowline knot with 1-inch loop. Ensure that overhand knot is snugly against bowline. Wrap pointed end of can opener with chafing material and secure in place with a rubber band.

15. Using a 140-inch length of type I nylon cord, form a 3/4 to 1-inch overhand loop approximately 12 inches from one end. Continue forming loops every 5 inches until there are enough to accommodate all required survival items.

NOTE

Tie survival items to the 140-inch cord in the order shown in [figure 6-4](#).

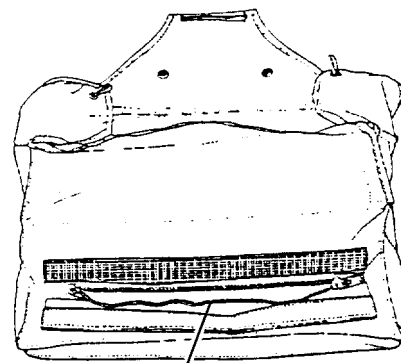
16. Tie each survival item to an overhand loop on the 140-inch cord using a surgeon's knot. The cord-end overhand knot of each item's attaching cord shall be positioned snugly against the surgeon's knot.

6-23. SURVIVAL PACKAGE PACKING. To stow survival items in equipment bag, proceed as follows:

NOTE

No item has a top or bottom designation; however, its longitudinal axis may be important.

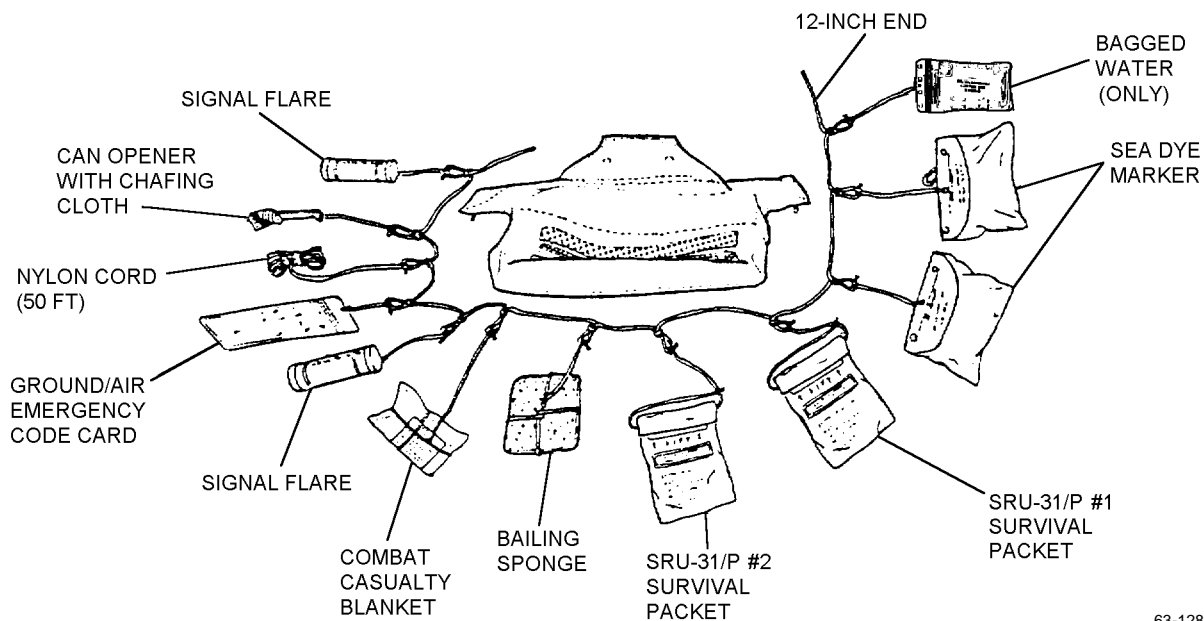
1. Position survival package assembly so that drop-line loops are on bottom and slide fastener of survival package is on top.



SLIDE FASTENER

63-1282A

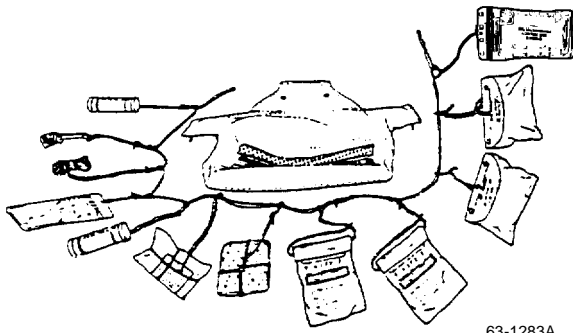
Step 1 - Para 6-23



63-1281A

Figure 6-4. Binding Survival Items

2. Position bound items to be packed in front of survival package.



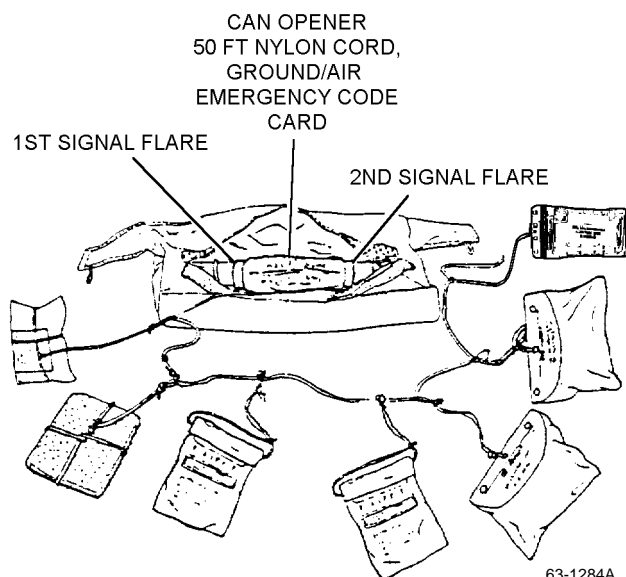
Step 2 - Para 6-23

3. Pack bound survival items into survival package as follows.

a. Place first signal flare in back left corner of survival package so that longitudinal axis is parallel to slide fastener.

b. Wrap can opener and 50 feet of nylon cord with Ground/Air Emergency Code Card. Place in back center section of survival package next to the first signal flare. Position so that the longitudinal axis is parallel to the slide fastener.

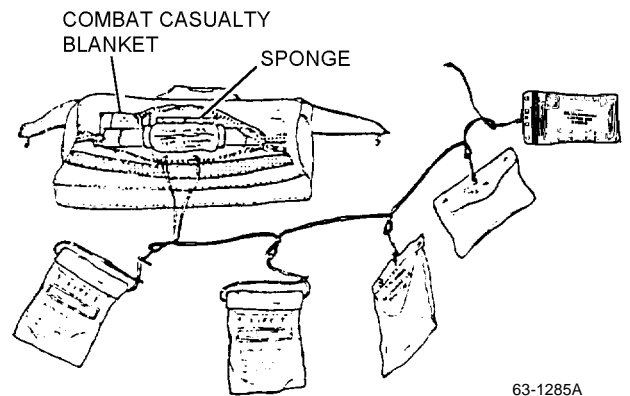
c. Place the second signal flare in back right corner of survival package so that the longitudinal axis is parallel to the slide fastener.



Step 3c - Para 6-23

d. Place the combat casualty blanket on the left side of the survival package on top of the first signal flare. Position so that the longitudinal axis is parallel to the slide fastener.

e. Place the sponge in center section of survival package in back of the Ground/Air Emergency Code Card. Position so that the longitudinal axis is parallel to the slide fastener.

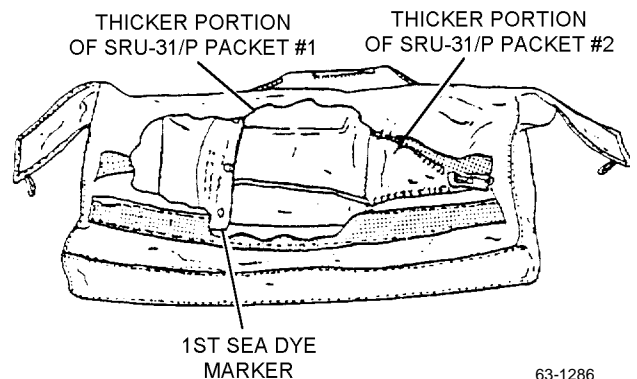


Step 3e - Para 6-23

f. Place SRU-31/P packet #2 in the right side of the survival package with the thick portion towards the rear. Position so that the longitudinal axis is perpendicular to the slide fastener.

g. Place SRU-31/P packet #1 in the center section of the survival package with the thick portion towards the rear. Position so that the longitudinal axis is perpendicular to the slide fastener.

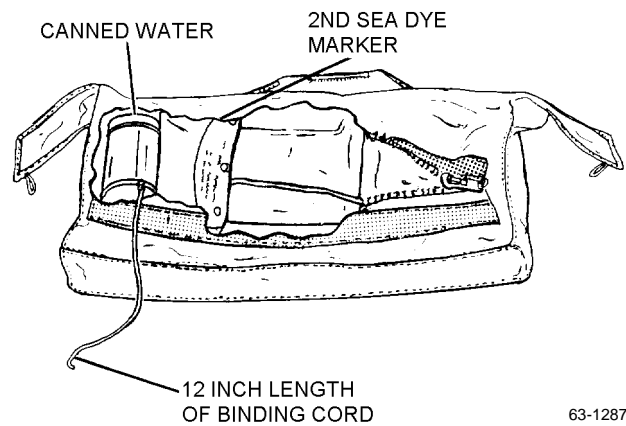
h. Place first sea dye marker on the left side of the SRU-31/P packet #1.



Step 3h - Para 6-23

i. Place bagged water in left section of survival package so that the longitudinal axis is perpendicular to the slide fastener.

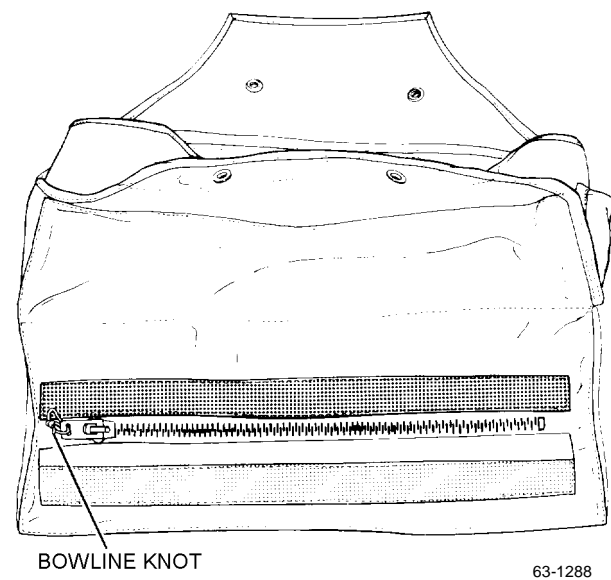
j. Place second sea dye marker on top of the first sea dye marker.



Step 3j - Para 6-23

4. Ensure that survival items are properly stowed. Ensure that the 12-inch length of binding cord protrudes from the survival package.

5. Close survival package, allowing 12-inch length of binding cord to protrude from survival package to tie to slide fastener tab. Tie end of cord to slide fastener using a bowline knot followed by an over-hand knot positioned snugly against bowline knot. Stow excess line in container.



Step 5 - Para 6-23

6. Ensure that binding cord is secured to slide fastener tab.

7. Close slide fastener protective cover.

6-24. LIFERAFT FOLDING, RIGGING, AND PACKING; DROPLINE STOWAGE; AND SURVIVAL PACKAGE INSTALLATION.

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type III 550-Pound	MIL-C-5040 NIIN 00-240-2146
As Required	Thread, Nylon, Type II, Class A, Size E	V-T-295 NIIN 00-244-0609
As Required	Thread, Nylon, Type II, Class A, Size 6	V-T-295 NIIN 00-559-5211
As Required	Cord, Nylon, Type I 100-Pound	MIL-C-5040 NIIN 00-240-2154
As Required	Talc, Technical, T1	MIL-T-50036A NIIN 01-080-9589
2	Rubber Band, Type I	MIL-R-1832 NIIN 00-567-0323
1	Plug, Diffuser	1614703-1 (CAGE 26869) NIIN 01-077-1734

Support Equipment Required

Quantity	Description	Reference Number
1	Packing Aid, Liferaft	Fabricate IAW paragraph 6-67
2	Closure Aids, Flap	—
1	Stowage Aid, Dropline	Fabricate IAW paragraph 6-66
1	Torque Wrench, 0-100pound-inch	—

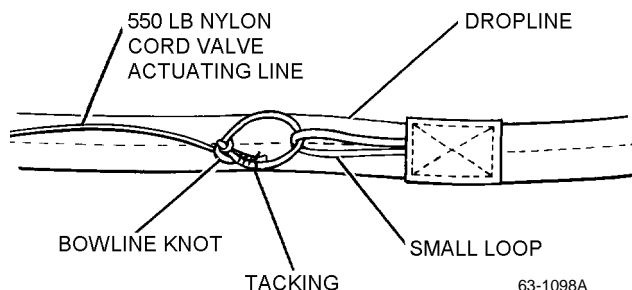
NOTE

Because of the complexity of rigging and packing this assembly, it is imperative that these procedures be combined and performed at the time and manner indicated in the instructions that follow.

If valve actuating line is damaged, incorrectly installed, or not installed, install new line in accordance with [steps 1 and 2](#).

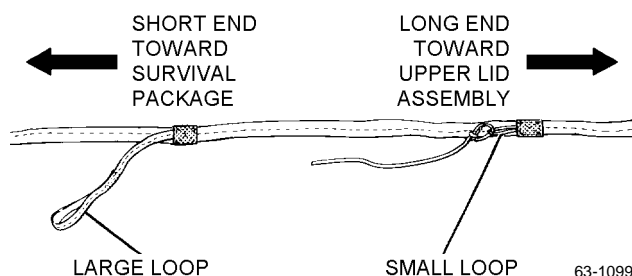
1. Cut a 15-inch length of 550-pound, Type III nylon cord and sear ends.

2. Route one end through small loop on dropline and tie with a bowline knot. Tack with three turns of waxed, size E nylon thread, single. Tie ends with surgeon's knot followed by a square knot.



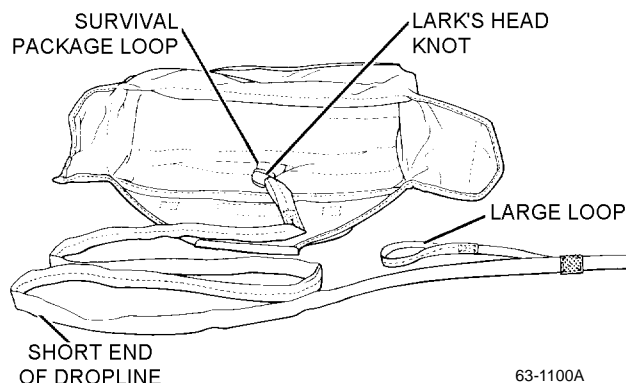
Step 2 - Para 6-24

3. Lay dropline out between survival package and upper lid assembly. Remove all twists. Ensure that large loop and short end are toward survival package and that small loop and long end are toward upper lid assembly.



Step 3 - Para 6-24

4. Attach short end of dropline assembly to survival package loop by means of lark's head knot.



Step 4 - Para 6-24

5. Prepare and fold liferaft assembly. To prepare and fold liferaft assembly, proceed as follows:

a. Lay liferaft assembly flat with inside facing upward and bow end to right ([step A, figure 6-5](#)).

b. Ensure that all trapped air is expelled from liferaft and oral inflation valve is locked and stowed in pocket prior to folding.

c. Lightly dust entire liferaft assembly with talc.

d. Secure sea anchor line in 3-inch bights. Fold and stow in pocket ([step B, figure 6-5](#)).

e. Roll and secure weathershield ([step C, figure 6-5](#)).

f. Fold stern of liferaft over approximately 4 inches ([step D, figure 6-5](#)).

g. Fold liferaft over at rear of CO₂ cylinder ([step E, figure 6-5](#)).

h. Fold bow of liferaft over to fold formed in step g ([step F, figure 6-5](#)).

i. Fold bow portion of liferaft over on top of previous folds. Approximate width of folded liferaft shall be 15 inches. Adjust folds as necessary ([step G, figure 6-5](#)).

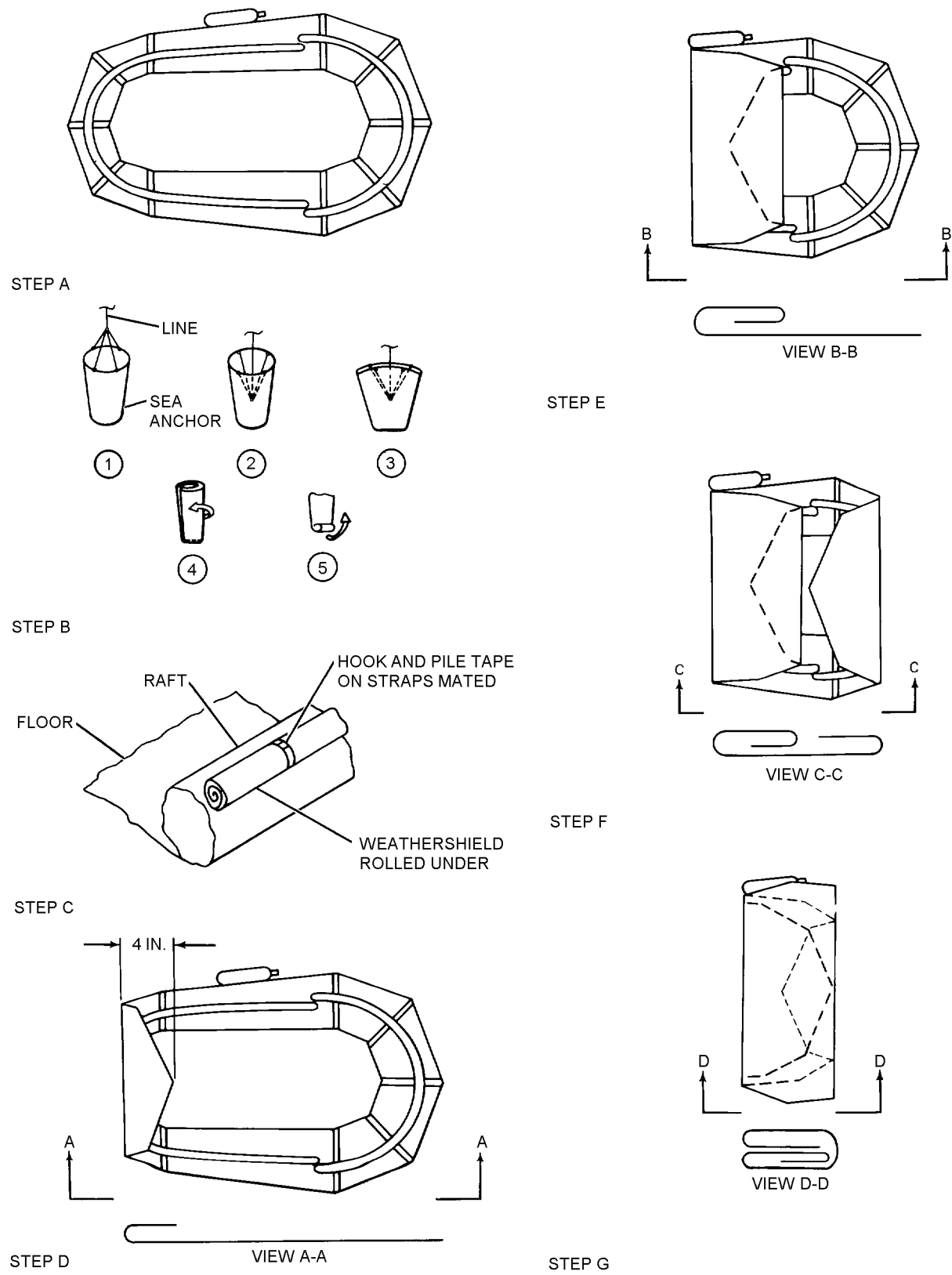
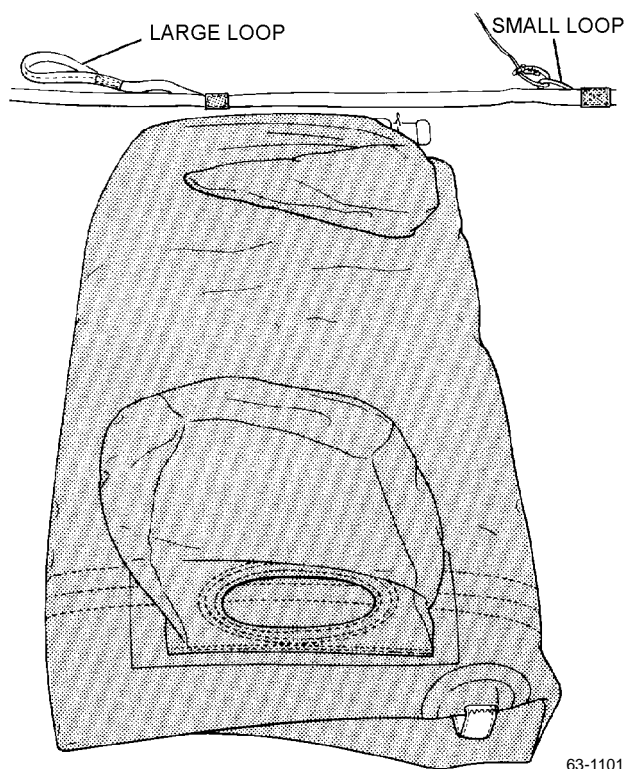


Figure 6-5. Folding Liferaft

j. Position folded liferaft assembly between small and large loop of dropline.



63-1101

Step 5j - Para 6-24

WARNING

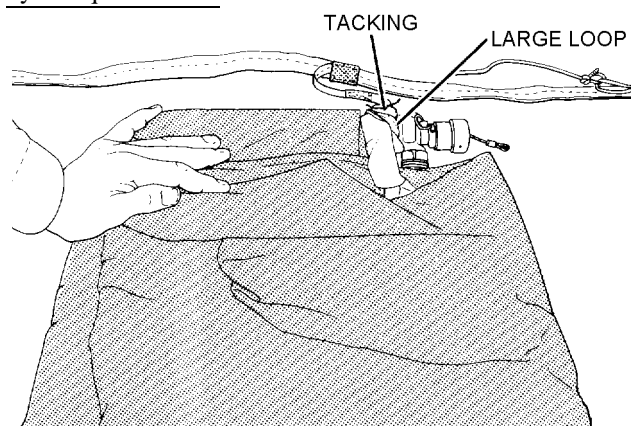
Gas under pressure. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

Ensure diffuser plug is installed in inflation valve.

k. Disconnect inflation valve from liferaft. Do not remove cylinder from stowage pocket. Install diffuser plug in inflation valve. Retain antichafing disc/discs on inlet check valve.

l. Ensure that retaining line is properly connected to cylinder in accordance with NAVAIR 13-1-6.1.

m. Attach large loop of dropline around neck of inflation valve at cylinder with lark's head knot. Pull knot tight and tack with two turns of waxed, size 6 nylon thread. Tie ends with a surgeon's knot followed by a square knot.



63-1123

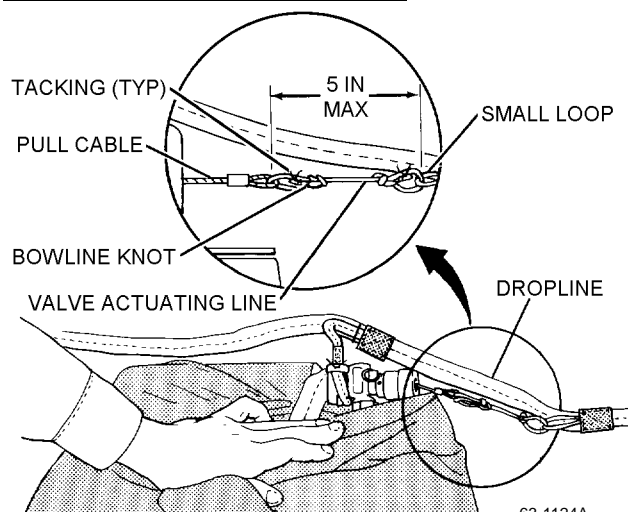
Step 5m - Para 6-24

n. Ensure CO₂ cylinder antichafing disc/discs are installed. Remove diffuser plug from inflation valve. Attach inflation valve to liferaft inlet valve and torque coupling nut to 80-90 lb-in.

WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

o. Pass actuating line through loop in end of pull cable. Tie loop, using a bowline knot. Tack with three turns of waxed, size E nylon thread. Tie ends with surgeon's knot followed by square knot. Finished length shall not exceed 5 inches.

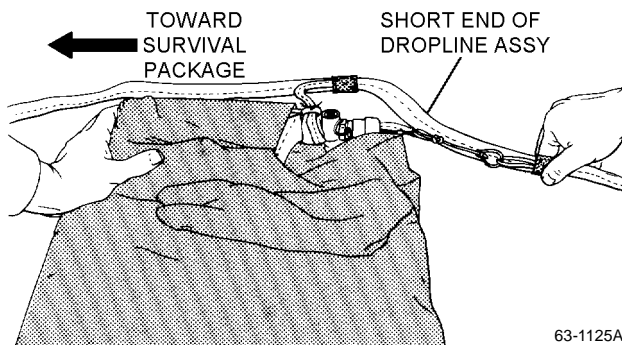


63-1124A

Step 5o - Para 6-24

NAVAIR 13-1-6.3-2

p. Position short end of dropline leading to survival package clear of CO₂ cylinder. Prepare liferaft to be rolled.



Step 5p - Para 6-24

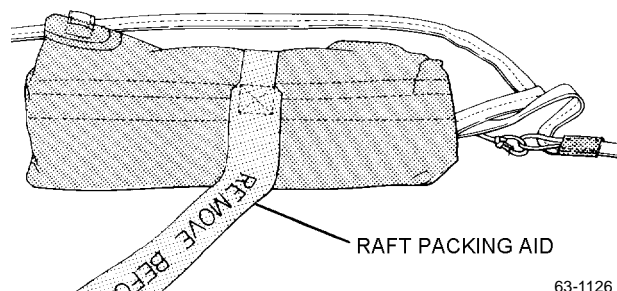
NOTE

Ensure that short end of dropline does not become tangled in the liferaft during the rolling operation.

Tight, even rolls will be necessary to achieve the desired height upon completion.

q. Beginning at CO₂ cylinder, tightly roll liferaft to a 5-inch maximum diameter, ensuring that dropline does not become tangled in liferaft rolling operation.

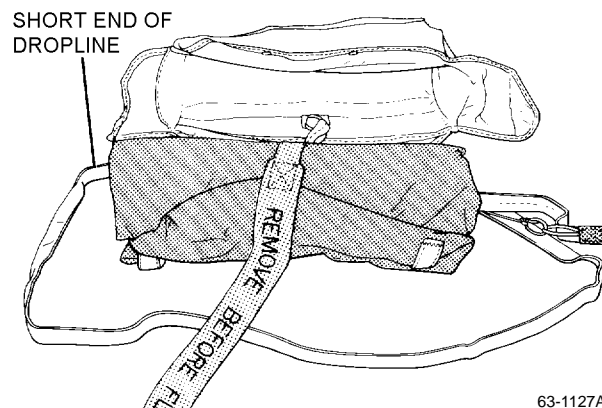
r. Retain liferaft in rolled position using liferaft packing aid, and remove all twists from dropline assembly.



Step 5r - Para 6-24

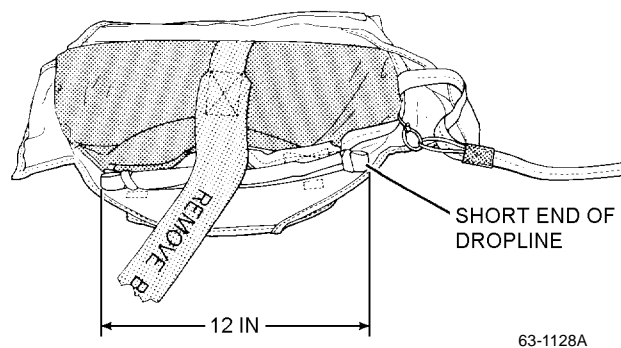
6. Install liferaft assembly into survival package. To install liferaft assembly into survival package, proceed as follows:

a. Position rolled liferaft in front of survival package assembly with the CO₂ cylinder inflation valve positioned to the right. Position short end of dropline in a manner that will not interfere with liferaft installation.



Step 6a - Para 6-24

b. Position rolled liferaft assembly into survival package. Fake short end of dropline assembly in 12-inch bights and secure with rubber bands. Position secured dropline in front of rolled liferaft assembly.



Step 6b - Para 6-24

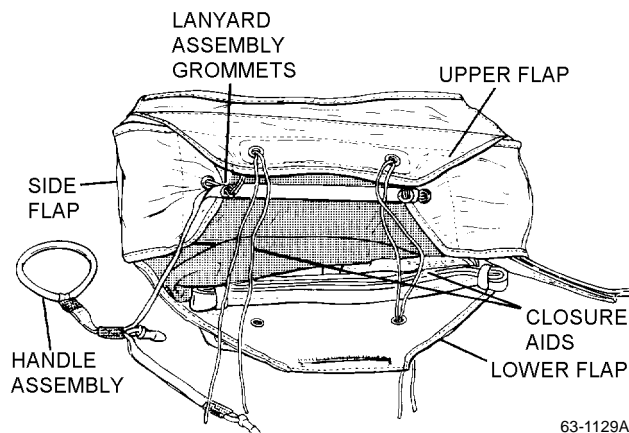
c. Cut two 30-inch lengths of Type I nylon cord.

d. Insert 30-inch lengths (closure aids) through fabric eyelets attached to side flaps to aid in flap closure procedures.

WARNING

Ensure that liferaft packing aid is removed from rolled liferaft assembly.

e. Remove liferaft packing aid from rolled liferaft assembly. Fold side flaps over ends of rolled liferaft. Place grommets of lanyard assembly over fabric eyelets ensuring lanyard handle assembly is positioned to left. Pass closure aids through lanyard grommets and pull fabric eyelets through.

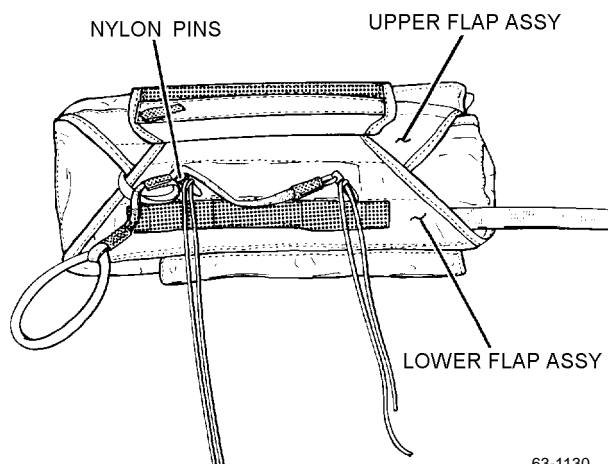


63-1129A

Step 6e - Para 6-24

f. Pass flap closure aids through grommets in upper flap assembly and pull fabric eyelets through. Retain flap in closed position.

g. Pass flap closure aids through grommets in lower flap assembly and pull fabric eyelets through. Insert nylon pins into fabric eyelets to retain flaps in closed position.



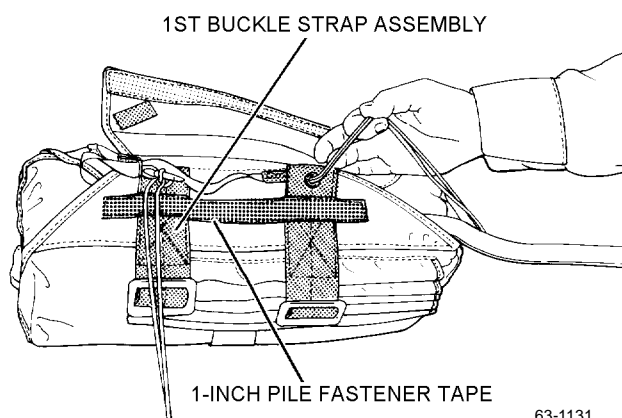
63-1130

Step 6g - Para 6-24

h. Pass first buckle strap assembly through slot in 1-inch pile fastener tape with large slot in buckle facing downwards.

i. Pass flap closure aid through grommet in first buckle strap assembly, remove nylon pin, and pull fabric loop through. Secure in place by reinserting nylon pin.

j. Pass second buckle strap assembly through slot in 1-inch pile fastener tape with large slot in buckle facing downwards. Pass flap closure aid through grommet in second buckle strap assembly.



63-1131

Step 6j - Para 6-24

NAVAIR 13-1-6.3-2

k. Remove nylon pin and pull fabric loop through. Secure in place by reinserting nylon pin.

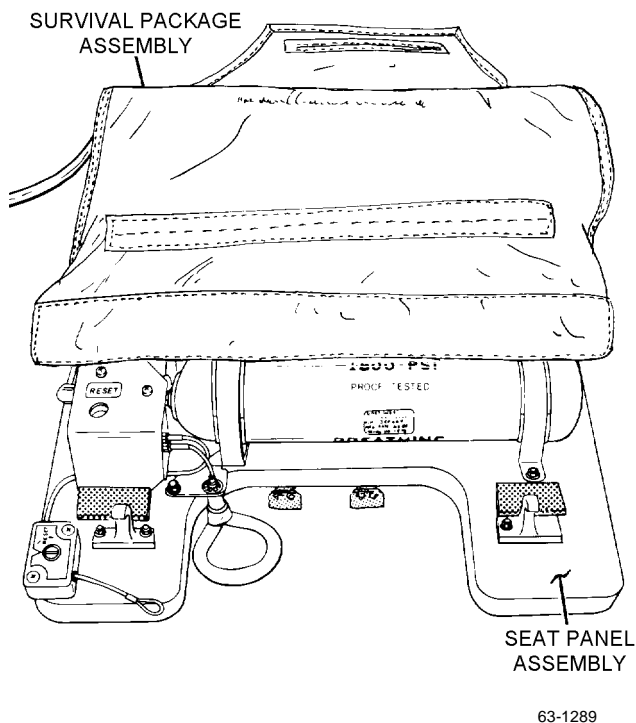
7. Stow dropline assembly and install survival package to seat panel assembly. To stow dropline assembly and install the survival package, proceed as follows:

NOTE

The oxygen/communication hoses would normally be installed on the survival kit at this point in time. However for clarity and simplicity of illustrations they have been removed.

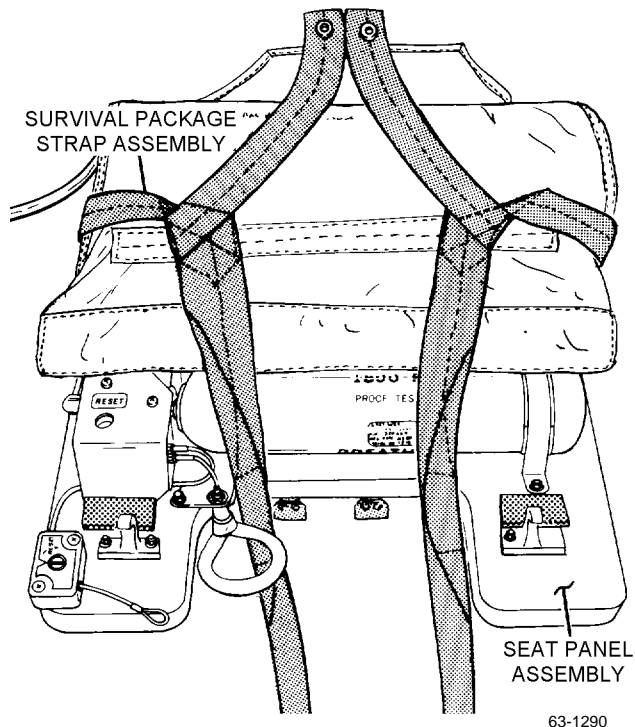
a. Position seat panel assembly so that the oxygen cylinder is located on top.

b. Place the survival package assembly on top of seat panel assembly so that dropline stowage loops are facing down.



Step 7b - Para 6-24

c. Place the survival package strap assembly under seat panel assembly and around survival package. Remove all twists.

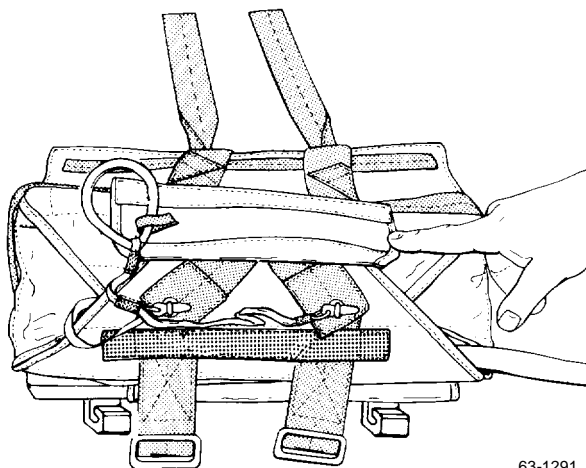


Step 7c - Para 6-24

d. Cross ends of strap assembly with grommets and slide through 3-inch slot.

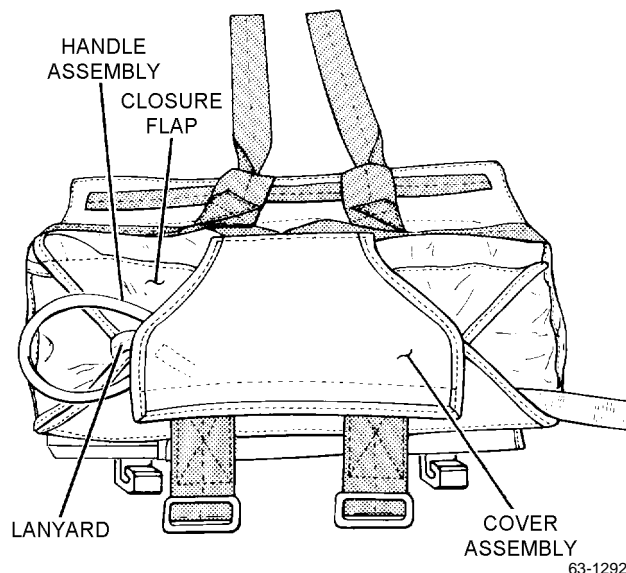
e. Pass flap closure aids through grommets in strap assembly. Remove nylon pins and pull fabric loop through. Secure in place by reinserting nylon pins.

f. Secure handle assembly under 5/8-inch hook and pile fastener tape.



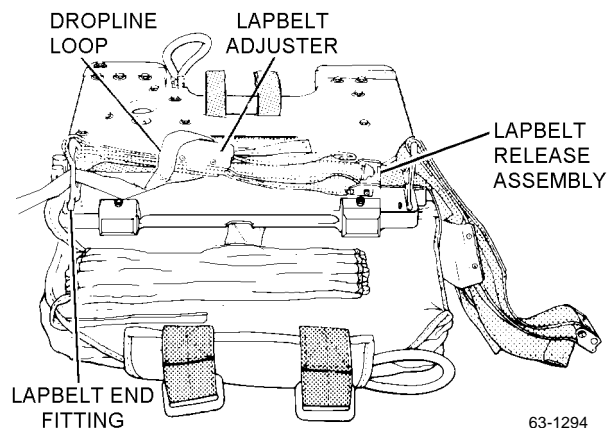
Step 7f - Para 6-24

g. Close cover assembly and push remaining lanyard under closure flap.



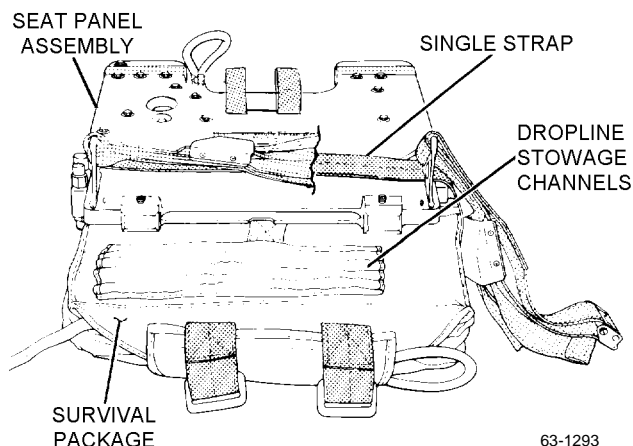
Step 7g - Para 6-24

i. Remove all twists from dropline. Route loop in end of dropline through lapbelt end fitting and over lapbelt release assembly and adjuster.



Step 7i - Para 6-24

h. Turn assembly over so that the lapbelts are on top and dropline stowage channels are exposed.

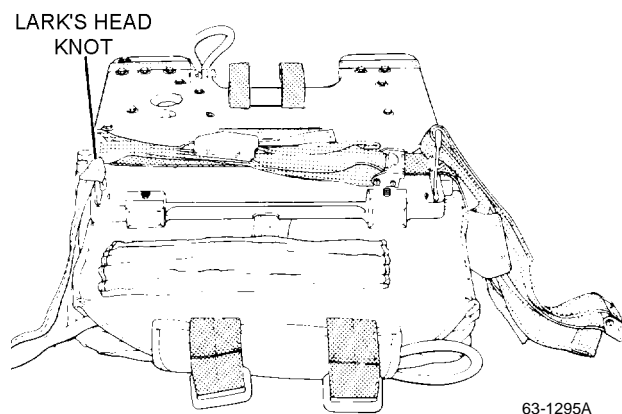


Step 7h - Para 6-24

NOTE

The oxygen communication hoses would normally be installed on the survival kit at this time. However, for clarity and simplicity of illustrations, they have been removed.

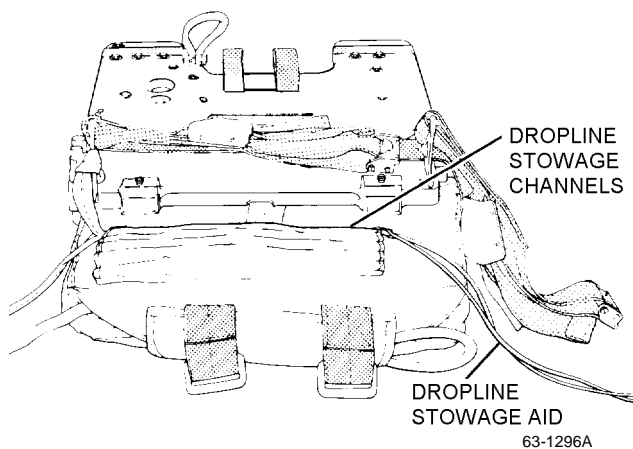
j. Continue passing dropline loop over lapbelt, forming a lark's head knot at lapbelt end fitting. Tack with one turn of waxed nylon 6 thread. Tie ends with a surgeon's knot followed by a square knot.



Step 7j - Para 6-24

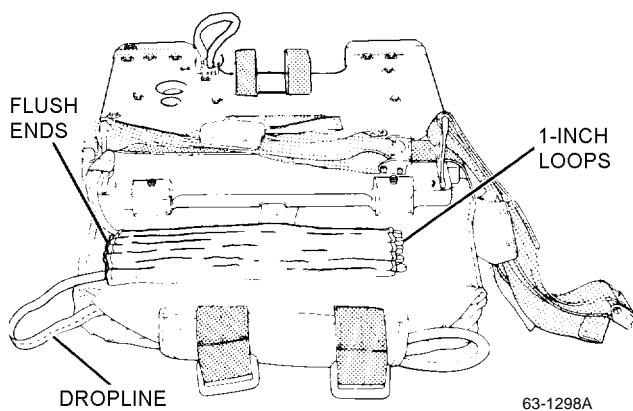
NAVAIR 13-1-6.3-2

k. Starting at left side of stowage channels begin stowing dropline in the most forward dropline stowage channel, using dropline stowage aid. Form a 1-inch loop in dropline at right end of stowage channel. At left end of stowage channel, loop shall be flush.



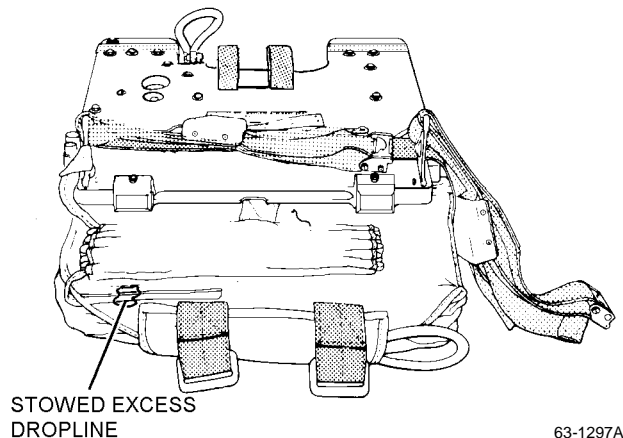
Step 7k - Para 6-24

l. Continue stowing dropline until all five dropline stowage channels are filled. Ensure no twists occur.



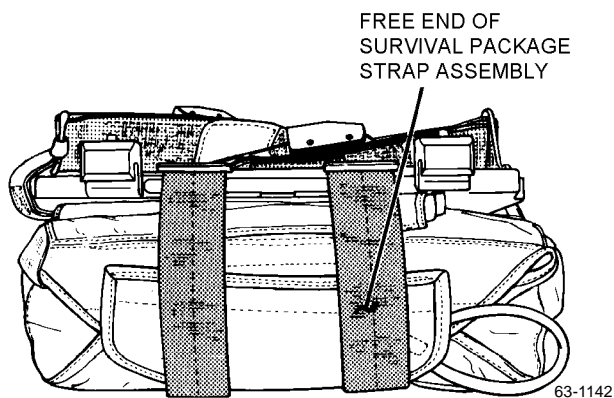
Step 7l - Para 6-24

m. Stow excess dropline along inside upper portion of flap assembly, using stowage aid.



Step 7m - Para 6-24

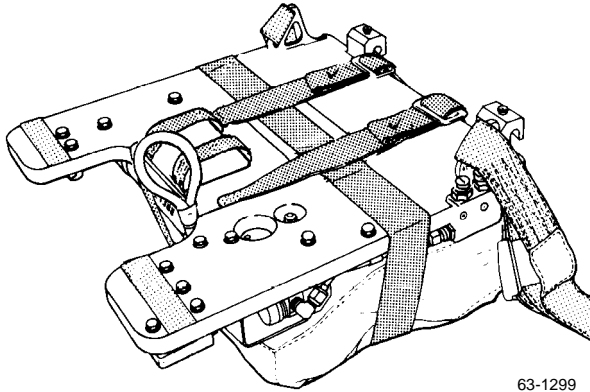
n. Position seat panel assembly directly on top of survival package. Reeve free end of strap assembly through buckles and pull snug. Pass free end of strap back up through buckles and lock into position.



Step 7n - Para 6-24

o. Perform release handle pull test in accordance with [paragraph 6-25](#).

p. Retighten straps. Fold both strap ends under and tack with one turn of waxed, size 6 nylon thread, double. Tie ends with a surgeon's knot followed by a square knot.



Step 7p - Para 6-24

q. Rig and install radio beacon in accordance with [paragraph 6-26](#).

r. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

6-25. RELEASE HANDLE PULL TEST. To perform a release handle pull test, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nylon Cord, Type I	MIL-C-5040 NIIN 00-240-2154

Support Equipment Required

Quantity	Description	Reference Number
1	Dial Push/Pull Gage, 0-50 Pounds	DPP-50 (CAGE 11710) NIIN 00-880-7583
2	Closure Aids, Flap	—

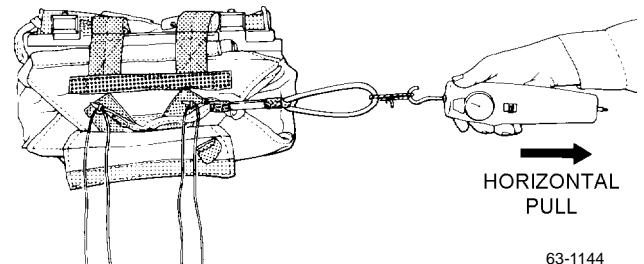
1. Open survival package cover assembly.

NOTE

Ensure the flap closure aids do not become wedged between the nylon pins and the fabric loops as this condition will increase the pull forces required to extract the nylon pins from the container.

2. Using 5 inches of Type I nylon cord, form a loop around orange release handle.

3. Insert hook of dial push/pull gage into nylon cord loop.



Step 3 - Para 6-25

NOTE

Discontinue pull when nylon pins are removed.

4. With one short, quick horizontal pull, extract nylon pins from fabric loops. Force required to extract pins shall be 25 ± 10 pounds.

NOTE

If pull forces cannot be met, repack survival package assembly in accordance with [paragraph 6-24](#).

5. Using flap closure aids, close flap assemblies.

6. Remove flap closure aids, close survival package cover assembly, and refer to [step 7p of paragraph 6-24](#) for final tacking and closing procedures.

6-26. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
1	Beacon Set, Radio	AN/URT-33A NIIN 00-160-2136
1	Actuator, Indicator Assembly	125B300-1 (CAGE 30941) NIIN 01-167-0627
1	Pin, Cotter, Hair-pin	LHCOTC NIIN 00-956-5633 (CAGE 96652)
1	Actuating Lanyard	12227-1 NIIN 01-170-8367 (CAGE 24632)
2	Rubber Band, Type I	MIL-R-1832 NIIN-00-568-0323
As Required	Thread, Nylon Size E, Type II, Class A	V-T-295 NIIN 00-244-0609

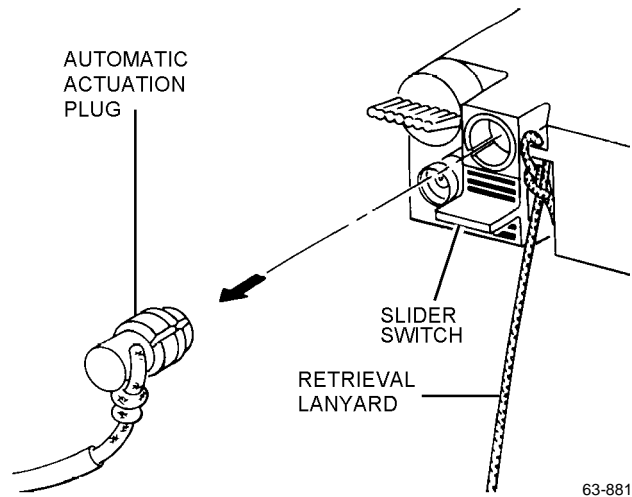
Support Equipment Required		
Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 6-69

NOTE

Ensure that slider switch on radio beacon is OFF. Slider switch is in OFF position when word ON is not visible on radio beacon housing.

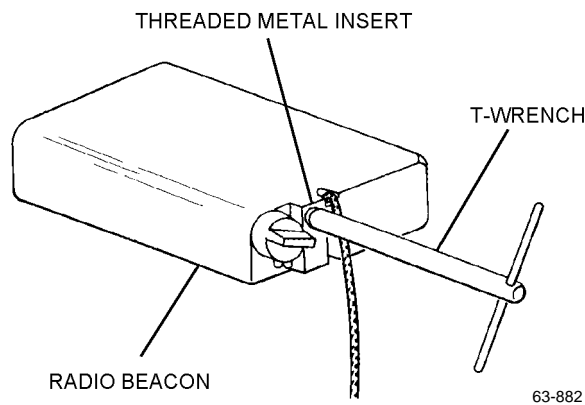
Determine if beacon has been modified in accordance with [steps 1 through 4](#) before proceeding to [step 5](#).

1. Remove automatic actuation plug and lanyard from radio beacon assembly.



Step 1 - Para 6-26

2. Remove threaded metal insert from beacon using locally fabricated T-wrench (see [paragraph 6-69](#) for fabrication).



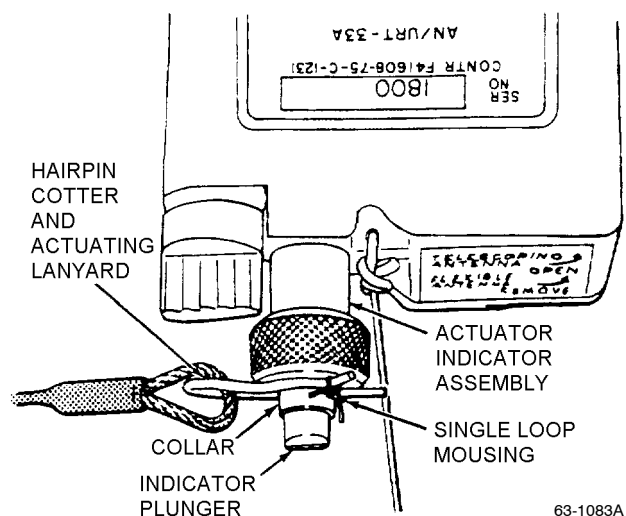
Step 2 - Para 6-26

3. Install actuator indicator assembly handtight into position in beacon from which threaded metal insert was removed.

4. Depress indicator plunger, align holes in collar and plunger, and insert hairpin cotter attached to actuating lanyard.

5. Ensure hairpin cotter and collar are free to rotate 360° without binding. If hairpin cotter and collar are free to rotate, proceed to [step 6](#). If hairpin cotter and collar do not rotate freely, refer to NAVAIR 16-30URT33-1.

6. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing, using size E nylon thread. Secure mousing loop with square knot. Cut off excess approximately 1/8 inch from knot.



63-1083A

Step 6 - Para 6-26

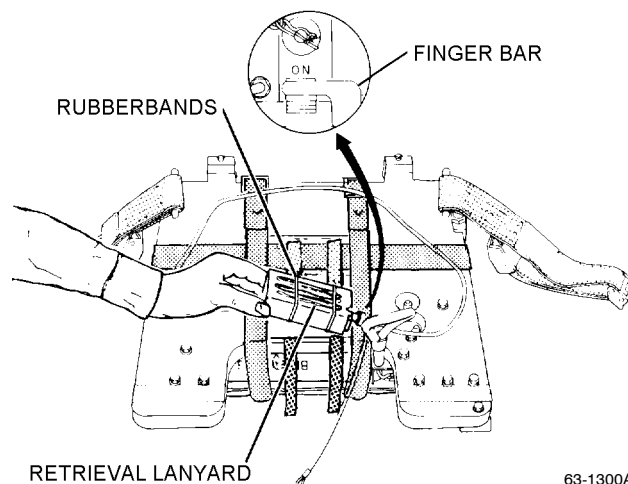
7. Accordion-fold retrieval lanyard on top of radio beacon and secure with rubber bands. Ensure retrieval lanyard is attached at both ends with a bowline knot, with an overhand knot tied at the tag end.

8. Connect flexible antenna to radio beacon receptacle by pushing bayonet type fitting in and rotating clockwise.

NOTE

To prevent accidental transmission of inaudible emergency distress signal, ensure indicator plunger is secure in depressed position before beacon ON/OFF slider switch is placed in ON (armed) position.

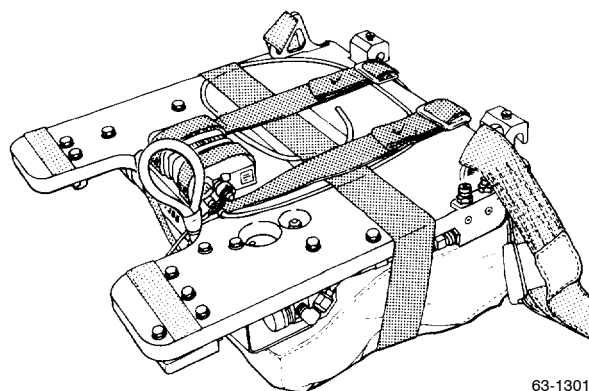
9. Place beacon ON/OFF slider switch in ON (armed) position and install beacon in radio beacon bracket. Hold beacon at a 45 degree angle, position slider ON/OFF switch under bracket finger bar, and press beacon into position in bracket assembly. Ensure slider switch is secure in ON position under finger bar, then secure beacon in bracket with hook and pile tape.



63-1300A

Step 9 - Para 6-26

10. Pass radio beacon antenna around seat panel assembly under all survival package straps.



63-1301

Step 10 - Para 6-26

Section 6-4. Turnaround/Daily/Preflight/Postflight/ Transfer/Special/Conditional Inspection

6-27. GENERAL.

6-28. The Turnaround/Daily/Preflight/Postflight or Transfer Inspections consist of a visual type inspection performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. These inspections shall be performed by line personnel (plane captain) or delegated aircrewmembers who have been instructed and found qualified by the Aviator's Equipment Branch.

6-29. The Conditional Inspection is an unscheduled inspection required as the result of a specific situation or set of conditions; e.g., hard-landing inspections or any inspection directed by higher authority that is not ordered in a technical directive.

6-30. The Special (7/14 day, etc.) Inspection shall be performed on inservice survival kits installed in aircraft and in ready room issue. This inspection shall be performed at the Organizational Level of maintenance

by personnel assigned to the Aviator's Equipment Branch. Completion and date of inspection shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

6-31. Perform the Turnaround/Daily/Preflight/Postflight/Transfer or Special Inspections in accordance with Periodic Maintenance Requirement Manual (PMRM) Number A1-AV8BB-MRC-200.

6-32. If discrepancies are found or suspected, Maintenance Control shall be notified.

6-33. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready for Issue (RFI) survival kit. Non-RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 6-5. Acceptance/Special-Off Aircraft Inspection

6-34. GENERAL.



6-35. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or received installed in an aircraft received from another organization or SDLM. Special-Off Aircraft Inspection cycle of a survival kit shall correspond to the aircraft maintenance inspection cycle as directed by applicable planned maintenance system (PMS) publications for specific intervals. In no case shall the phased interval exceed 448 days.

Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the rucksack/survival package assembly or liferaft.

6-36. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Visually inspect the following:

NOTE

The following inspection is performed with seat cushion and survival package removed.

If discrepancies are found, refer to Section 6-6, Maintenance

1. Seat panel for structural damage to honeycomb panel, damaged or missing neoprene pads, corrosion, damaged or deteriorated finishes, and worn or damaged hook and pile fasteners; all seat panel attaching screws and connectors for disturbed tamper dots.

2. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters, and seat pan attachment fittings.

3. Lapbelt release assembly for wear, damage, corrosion, loose or missing screws, and proper operation.

4. Lapbelt attachment fittings for limited rotation and security of attachment.

5. Oxygen hose assembly for secure attachment, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings.

6. Oxygen cylinder for distortion and chipped paint.

7. Emergency oxygen system for contamination, corrosion, damaged oxygen gage, rounded edges on pressure reducer lever, crimped cable housing, and security of swaged balls at ends of both release cables, and retention of cables in toggles.

8. Rucksack/survival package assembly for stains, torn stitching, damaged fabric, damaged or worn loops and grommets; slide fastener for corrosion and damage; dropline for damage, and loose or damaged hook and pile tape fasteners.

9. The release lanyard assembly for security of the two locking pins and grommets; cuts, breaks, and security of orange pull ring.

10. The buckle strap and strap assemblies for frayed or torn webbing, torn stitching, damaged or loose grommets, and corroded adjusters.

11. Cable assemblies for damage, broken strands, and bent, broken, or crushed conduits.

12. Radio beacon bracket assembly for damage, bent flanges, worn, torn, frayed, or loose hook and pile fastener tapes, and scratches which penetrate finish.

6-37. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of the kit. To perform a functional check, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth Type II	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) 31TB1995-1 (CAGE 99251)
1	Dial Push/Pull Gage, 0-50 Pounds	DPP-50 (CAGE 11710) NIIN 00-880-7583
1	Hose	14072-3 (CAGE 24632) or A11206-2 (CAGE 28445)

WARNING

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

CAUTION

Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures or damage to the seat kit may result. After repair, the entire test procedure shall be performed.

NOTE

Performance of the test stand is dependent upon skill of operator. Therefore, only trained operators, thoroughly familiar with instruments, controls, and connections that comprise systems incorporated in test stand shall perform the following tests. See NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 to familiarize yourself with 59A120 or 31TB1995 series liquid oxygen converter test stands.

Emergency oxygen cylinder pressures used in this functional test were derived under ideal shop conditions of 70°F (21°C). Variances in ambient air temperatures directly affect charging pressures. Refer to [table 6-5](#) for details.

Ensure that emergency oxygen cylinder is filled to 1800 to 2000 psi.

If discrepancies are found, refer to [Section 6-6](#), Maintenance.

1. Remove bell jar and connect oxygen outlet hose of survival kit to fitting (C-1) on test stand. Open valve (V-2) and be sure all other test stand valves are closed ([figure 6-6](#)).

2. Attach dial push/pull gage to manual emergency oxygen release handle.

3. Measure force required to disengage manual oxygen release. Force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psi on test stand gage (PG-1).

4. Reset reducer assembly.

5. Turn oxygen supply cylinder to test stand on.

6. Slowly open valve (V-6) on test stand and adjust pressure on gage (PG-1) to 90 psi.

7. Measure force required to disengage the manual oxygen release with a dial push/pull gage. Force required shall be 10 to 30 pounds.

8. Use leak test compound to check all pressure lines and fittings on survival kit for leakage. If leakage is detected, refer to [Section 6-6](#), Maintenance.

9. Reset reducer assembly.

CAUTION

Do not increase pressure above 150 psi.

NOTE

Unseating can be determined by listening and observing gage (PG-1) on test stand.

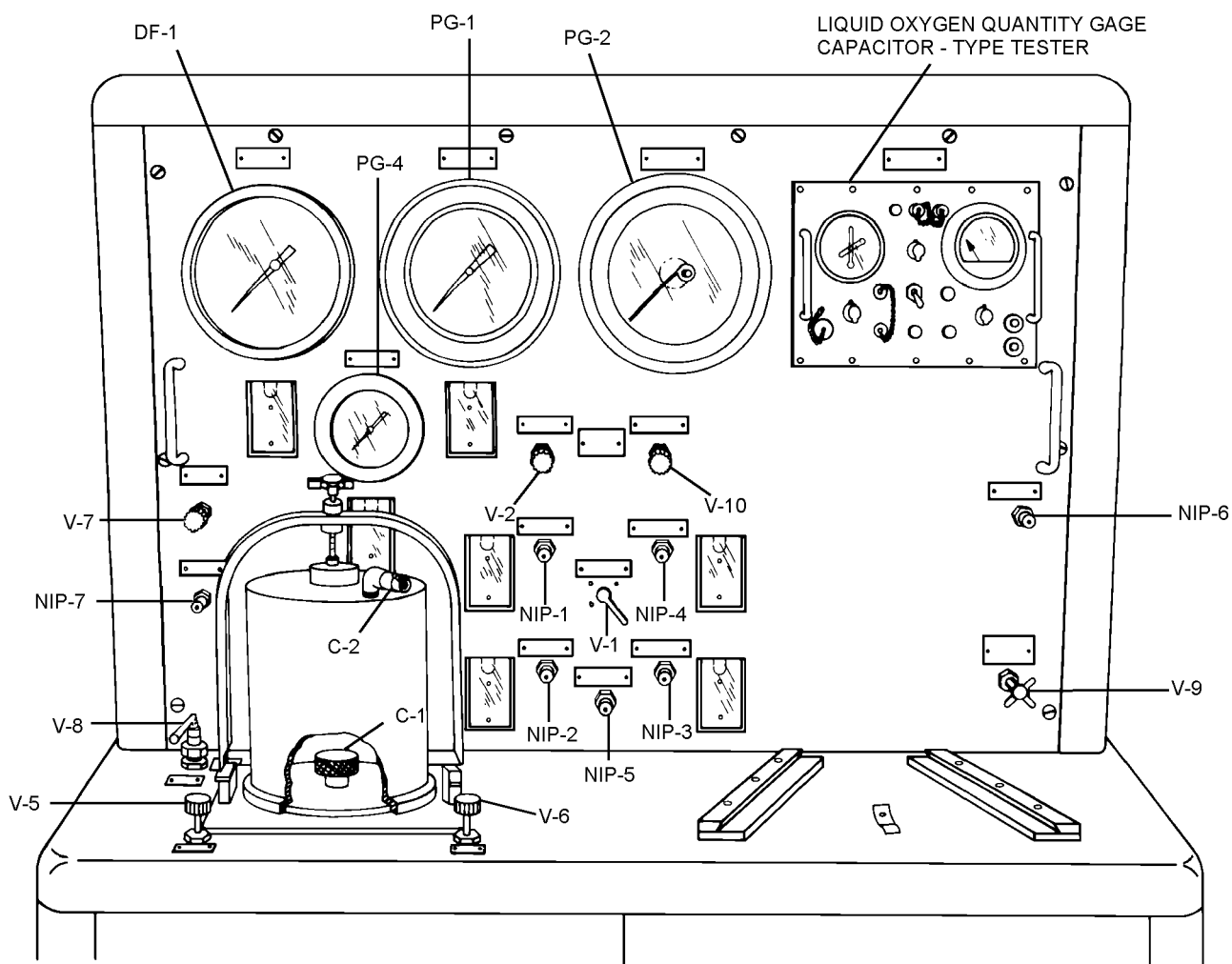
10. Using valve (V-6), increase pressure until relief valve unseats.

NOTE

Pressure may be reduced below opening (unseating) pressure of the relief valve by closing valve (V-6) and opening valve (V-5).

11. Repeat [step 10](#) several times to establish a correct pressure. Relief valve shall unseat at 120 to 140 psi when pressure is increased, and reseat at 110 psi minimum when pressure is decreased. Once re-seated, relief valve shall be leak tight (no indication on PG-1 of pressure drop).

12. Use leak detection compound to check relief valve for leakage. If leakage is detected, refer to [Section 6-6](#), Maintenance.



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 – 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 – 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 – 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 – 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 – 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 – 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 – 160 PSIG TEST PRESSURE GAGE		

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Figure 6-6. Test Stand Model 59A120

NAVAIR 13-1-6.3-2

13. Close valve (V-6) and bleed oxygen pressure from system by opening valve (V-5). All pressure is bled when gages (PG-1 and PG-4) indicate 0 psi.

14. Close valve (V-5).

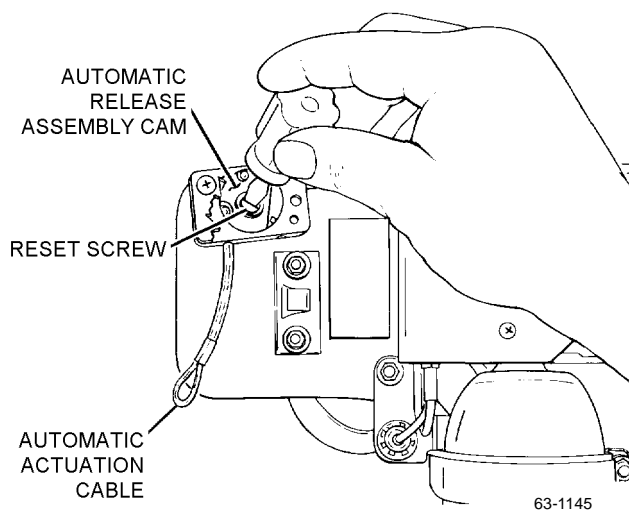
15. Be sure valve (V-2) is opened and all other test stand valves are closed.

16. Measure force required to disengage automatic oxygen release with a dial push/pull gage. Force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psi on gage (PG-1) on test stand.

17. Connect automatic oxygen release lanyard and reset reducer assembly as follows:

a. Remove coverplate on the automatic release assembly and remove washer (ACC 656).

b. Using a standard screwdriver, rotate reset screw on automatic release assembly cam counter-clockwise until it stops. Hold cam in that position and insert ball end of automatic actuation cable through hole in bottom of automatic release assembly housing and into notch in automatic release assembly cam.



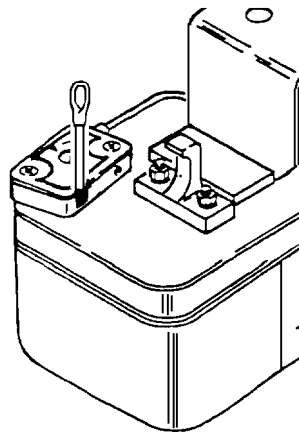
Step 17b - Para 6-37

c. Rotate reset screw clockwise until travel stops and reset reducer toggle.

d. When replacing the coverplate on the automatic emergency oxygen release assembly ensure that the swaged ball and cable move freely and they do not interfere with the movement of the cam. Apply VC3 thread locking compound to the first two threads of the coverplate screws. Re-install washer (ACC 656) and coverplate.

e. Slightly tug on loop end of automatic actuation lanyard to ensure positive cam engagement.

18. Measure force required to disengage automatic oxygen release with a dial push/pull gage. Pulling at a 90 degree angle away from the bottom of the kit, the force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psig on gage PG-1 on test stand.



Step 18 - Para 6-37

19. To reconnect the automatic oxygen release lanyard and reset the reducer assembly follow [step 17](#). After reconnection continue with [step 20](#).

20. Open valve (V-5), and ensure that all other test stand valves are closed.

21. Actuate toggle on reducer to ensure positive flow through valve (V-5). Reset reducer assembly.

22. Open valve (V-8).

23. Slowly close valve (V-5), while observing gage (DF-1).

NOTE

Observe gage (DF-1) for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires corrective maintenance.

24. Close valve (V-8), open valve (V-5), and disconnect oxygen outlet hose from fitting (C-1).

25. Ensure that all valves on test stand are secured.

26. Connect oxygen outlet hose to fitting (NIP-6). Ensure that valve (V-10) is open and all other test stand valves are closed.

27. Connect test stand hose to fitting (NIP-5) and fitting (NIP-4).

28. Turn valve (V-1) to the NIP-4 position.

29. Be sure that 1800 to 2000 psi is in the oxygen cylinder of the kit.

30. Pull manual oxygen release. Oxygen pressure on gage (PG-1) shall indicate 45 to 80 psi.

31. Slowly open valve (V-9) to indicate 90 LPM on gage (PG-2). Oxygen pressure shall indicate 45 to 80 psig on gage (PG-1).

NOTE

When needle of cylinder pressure gage is between the E and F of REFILL, pressure is approximately 250 psi.

32. Observe emergency oxygen cylinder pressure gage and allow the system to decrease to 250 psi when maintaining 90 LPM and 45 to 80 psi.

33. Close valve (V-9).

34. With zero flow indicated on gage (PG-2), pressure indicated on gage (PG- 1) shall be 45 to 80 psi.

35. Reset reducer assembly.

36. Bleed oxygen pressure from system by opening valves (V-5 and V-2). All pressure is bled when gages (PG-1 and PG-4) indicate 0 psi.

37. Disconnect kit from test stand.

38. Secure test stand.

39. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

40. Recharge emergency oxygen cylinder to 1800 to 2000 psi. Refer to [paragraph 6-38](#) for charging procedures.

6-38. PURGING AND CHARGING EMERGENCY OXYGEN SYSTEM. To purge and charge the emergency oxygen system, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Nitrogen, Type I, Class I, Grade B	BB-N-411
As Required	Aviators Breathing Oxygen, Type I	MIL-O-27210
As Required	Lint-free Cloth Type II	MIL-C-85043, NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Oxygen Purging Electric Heater or equivalent	C5378 (CAGE 96787)
1	Shut-off Valve	—
1	Pressure Regulator	MIL-R-9198
1	Adapter, Filling (Optional)	21000T130-1 (CAGE 53655)

WARNING

Servicing of emergency oxygen system is accomplished only after removal of survival kit from aircraft.

Before use, inspect leak detection compound. Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

1. Remove survival kit in accordance with applicable maintenance manual, if survival kit assembly has not been removed from aircraft.

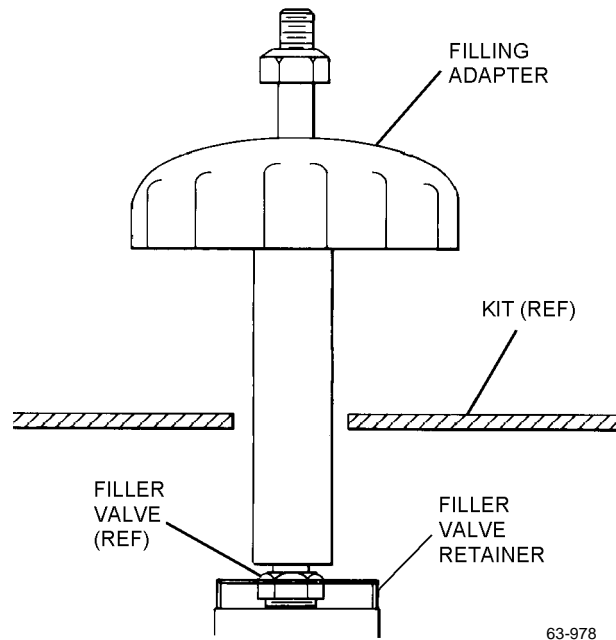
WARNING

If necessary to release pressure in oxygen bottle before purging/filling, pull emergency oxygen lanyard. This releases pressure through reducer/manifold. DO NOT release pressure through filler valve or adapter. Releasing high-pressure oxygen through restriction of filler valve causes heat. Fire or explosion may result.

NOTE

Use of filling adapter on SKU-6/A survival kit is optional.

2. Remove cushion assembly from survival kit assembly.
3. Remove oxygen filler valve cap and connect filling adapter to filler valve ([figure 6-7](#)).



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Figure 6-7. Filling Adapter

NOTE

If the emergency oxygen system is contaminated or the cylinder has remained empty for more than 2 hours, purging is required. If an emergency oxygen cylinder does not warrant the purging process, proceed to [step 11](#) for charging sequence.

4. Deplete emergency oxygen cylinder if necessary.
5. Connect nitrogen source to filling adapter/filler valve, and close pressure reducer.

NOTE

If relief valve on Oxygen Purging Electric Heater will not allow 100 psi, raise pressure only to allowable limit.

6. Slowly pressurize to 100 psi with nitrogen at temperature of 110° to 130°C (230° to 266°F) using electric heater.
7. Turn off nitrogen source and deplete oxygen cylinder.

8. Repeat steps 6 and 7 twice.
9. With pressure reducer open turn on nitrogen source and purge for 10 minutes at temperature of 110° to 130°C (230° to 266°F).
10. Turn off nitrogen source and disconnect.
11. Connect oxygen source to filling adapter with suitable pressure regulator and shutoff valve. Reset pressure reducer.
12. Slowly pressurize to 100 psi.
13. Deplete cylinder to 50 psi.

WARNING

Observe filling stages as rapid application of oxygen pressure creates heat which may result in fire or explosion.

Allow no less than 3 minutes for each filling stage and 2-minute intervals for cooling between stages.

NOTE

If kit is to be stored, the emergency oxygen bottle shall be depleted or filled to 200 PSI (when needle on gage bisects E of REFILL). For shipping, fill to 25 PSI using the gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with [table 6-4](#) until pressure gage indicates correct pressure for existing ambient temperature ([table 6-5](#)).

15. Loosen filling adapter (if installed) until all pressure is bled from high pressure line. Remove filling adapter.

WARNING

Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Also compound exhibiting peculiar odors such as acetone or alcohol is considered contaminated and shall be disposed of.

NOTE

Alternate Fill Valve P/N 9120097-27 is coreless and has a maximum leakage rate of 1 cc/hr. This will be evident by very

tiny bubbles passing through the top of the valve when leak detection compound is applied level to top rim. No leaks around threads are acceptable. If large bubbles are evident, contact survival kit FST for disposition.

16. Examine leak detection compound then apply around connection points of oxygen gage, reducer, and filler valve. Check for leaks. Then thoroughly wipe clean and dry with lint-free cloth, filtered low-pressure compressed air, or low pressure oxygen.

17. Reinstall oxygen filler valve cap on filler valve.

18. Replace cushion assembly on survival kit.

19. If seat survival kit was removed from aircraft in [step 1](#), reinstall using the applicable maintenance manual.

Table 6-4. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

Table 6-5. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

Section 6-6. Maintenance

6-39. GENERAL.

WARNING

Keep working area clean and free of oil, grease, and dirt. Do not attempt to perform any component removal with the oxygen system pressurized.

CAUTION

Ensure that maintenance on the survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose the survival kit to any oily substances. Do not slide kit on abrasive surfaces or into sharp objects which may damage, puncture or tear the rucksack/survival package or liferaft assembly.

6-40. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment. Disassemble only to extent required to perform task. Work shall be performed in a clean, dust and grease-free area.

6-41. TROUBLESHOOTING.

6-42. When trouble or operating malfunctions are encountered, locate probable cause and remedy, using [table 6-6](#).

6-43. DISASSEMBLY.

6-44. Disassemble survival kit to the extent necessary to replace defective components.

WARNING

Keep working area clean and free of oil, grease, dirt, and dust which may cause fire or explosion when in contact with oxygen.

Do not disassemble any part of emergency oxygen system while system is pressurized.

1. Pull emergency oxygen release lanyard or green ring to release pressure in emergency oxygen system.

NOTE

Discard all packings, seals, cotter pins, and teflon sealing tape removed during disassembly of emergency oxygen system.

Discard all threaded inserts, rivets, rubber pads, seals, or hook and pile tape removed during disassembly of the survival kit.

2. Disassemble survival kit using index numbers assigned to [figures 6-14 through 6-20](#) as a disassembly sequence. Refer to [paragraph 6-45](#) for disassembly of the pressure reducer assembly.

6-45. DISASSEMBLY OF PRESSURE REDUCER ASSEMBLY. The three major areas of disassembly for the pressure reducer assembly ([figure 6-8](#)) are (1) removal and disassembly of adjustment assembly; (2) disassembly of high pressure assembly; and (3) disassembly of low pressure assembly. Determine area of malfunction using [table 6-6](#), Troubleshooting, and disassemble only to extent necessary for corrective maintenance.

Table 6-6. Troubleshooting

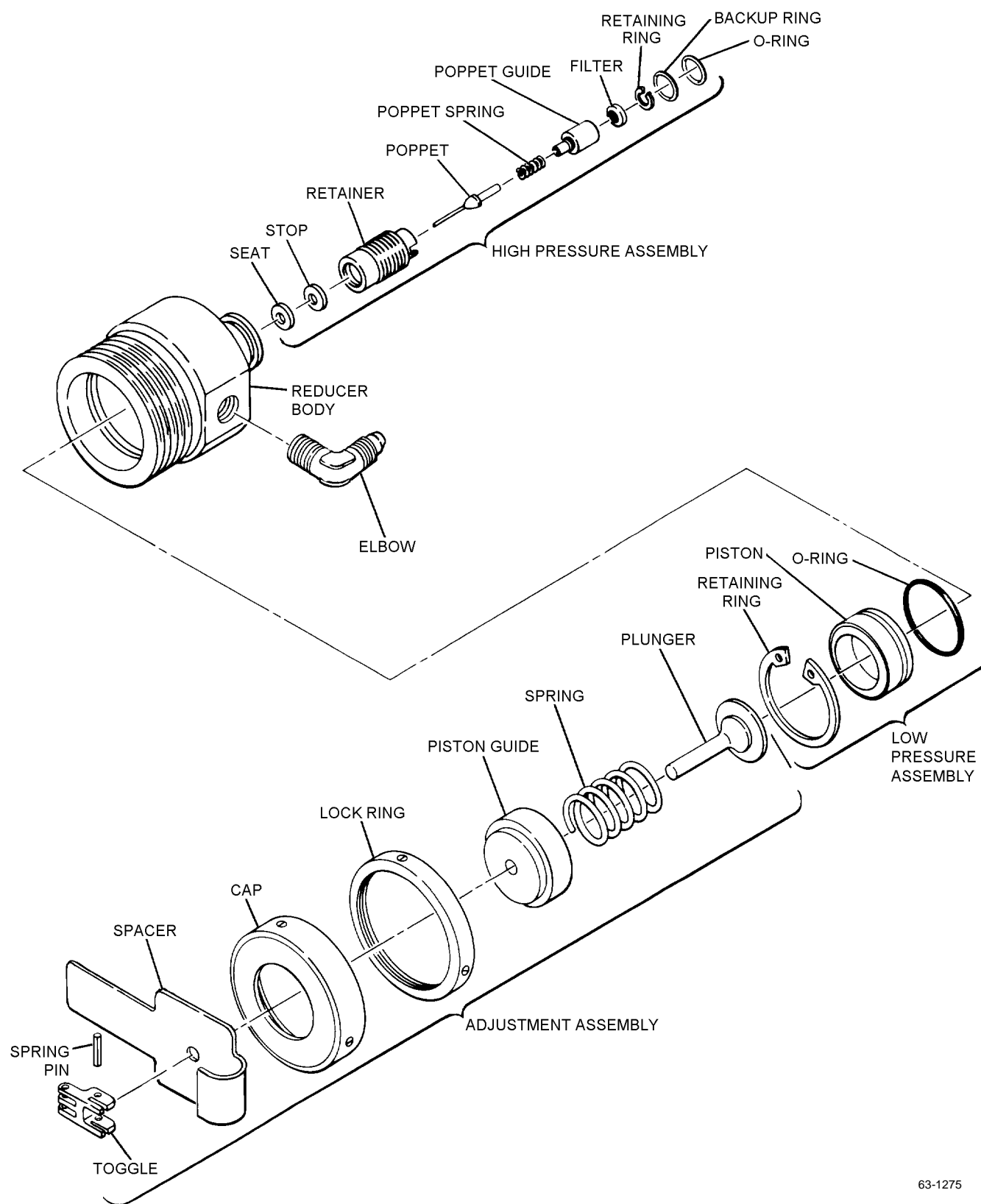
Trouble	Probable Cause	Remedy
Low or zero indication on pressure gage.	System empty.	Charge system in accordance with paragraph 6-38 .
	Defective gage.	Replace gage.
	Leaking components.	Tighten connections or replace.
Relief valve leakage.	Dirty or defective relief valve.	Clean or replace relief valve.
	Defective O-ring.	Remove relief valve and replace O-ring.
Relief valve does not operate within tolerance of 120 to 140 psi when simulated aircraft back pressure is applied during test.	Defective or out of adjustment relief valve.	Adjust in accordance with paragraph 6-61 to meet required specifications. If specifications cannot be met, replace relief valve.
Manual emergency oxygen does not actuate or does not actuate within a tolerance of 10 to 30 pounds.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
	Cable binding in housing.	
	Corroded or frozen release handle fitting.	Clean or replace manual oxygen release fitting.
Automatic emergency oxygen does not actuate or does not actuate within a tolerance of 10 to 30 pounds.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
	Cable binding in housing.	
	Automatic Emergency Oxygen Release Assembly out of adjustment.	Adjust in accordance with paragraph 6-62 .
No oxygen flow at kit-to-man hose when emergency oxygen system is actuated by automatic oxygen lanyard or manual oxygen release.	Automatic oxygen cable pulls free of release assembly before reducer toggle arm is operated.	Adjust Emergency Oxygen Release Assembly in accordance with paragraph 6-62
Unable to obtain proper adjustment of lapbelt assembly.	Faulty lapbelt adjuster.	Inspect/replace lapbelt adjuster in accordance with paragraph 6-55 .
	Improper routing of webbing.	
	Dirt/grease on slides.	Disassemble lapbelt adjuster in accordance with paragraph 6-55 and clean slides using clean, dry cloth. Reassemble lapbelt adjuster in accordance with paragraph 6-55 .
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors. Open or short circuit in oxygen hose wiring.	Perform electrical check in accordance with NAVAIR 13-1-6.3-1.
Pull force to actuate kit release lanyard is not within tolerance of 25 ± 10 pounds.	Survival kit not properly packed.	Repack survival kit in accordance with paragraph 6-24 .
	Heavily burred locking cones.	Replace kit release lanyard.
Oxygen flow exists at ship-to-kit hose when emergency oxygen system is actuated during test.	Defective spindle in outlet manifold.	Replace spindle.

Table 6-6. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
No oxygen flow at kit-to-man hose from aircraft system (emergency oxygen system not actuated).	Defective spindle in outlet manifold.	Replace spindle.
No oxygen output pressure with pressure reducer actuated.	Weak or broken spring (7, figure 6-20) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 6-45 and replace spring in adjustment assembly.
	Pressure reducer out of adjustment.	Adjust pressure reducer in accordance with paragraph 6-60 .
	Defective oxygen gage.	Bleed system; replace oxygen gage.
	Foreign matter in output flow path.	Bleed system; disassemble in accordance with paragraph 6-45 and clean.
	Poppet (19, figure 6-20) does not extend into position.	Bleed system; disassemble in accordance with paragraph 6-45 and replace poppet and seat.
Oxygen system output pressure not within 45 to 80 psig limits.	Pressure reducer out of adjustment	Adjust pressure reducer in accordance with paragraph 6-60 .
	Weak or broken spring (7, figure 6-20) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 6-45 and replace spring in adjustment assembly.
	Defective pressure reducer.	Replace reducer.
Pulsating pressure at outlet port.	Bent plunger. (8, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace plunger.
Oxygen system leaking; low pressure side of reducer.	Defective O-ring (11, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace O-ring.
	Weak or broken spring (18, figure 6-20) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 6-45 and replace poppet spring.
Pressure reducer will not shut off.	Bent poppet (19, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace poppet.
	Broken poppet spring (18, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace poppet spring.
	Dirt.	Bleed system; disassemble in accordance with paragraph 6-45 and clean.

Table 6-6. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Pressure reducer will not shut off. (Cont)	Misaligned seat (22, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace seat.
	Defective retaining ring (9, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace retaining ring.
Pressure reducer does not meet required flows.	Pressure reducer out of adjustment.	Adjust pressure reducer in accordance with paragraph 6-60 .
	Weak or broken spring (7, figure 6-20) in pressure reducer.	Bleed system; disassemble in accordance with paragraph 6-45 and replace spring in adjustment assembly.
	Improper assembly of pressure reducer.	Bleed system; disassemble in accordance with paragraph 6-45 and clean.
	Dirty filter assembly (16, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace filter assembly.
Oxygen system leaking; high pressure side of reducer.	Misaligned seat (22, figure 6-20)	Bleed system; disassemble in accordance with paragraph 6-45 and replace seat.
	Bent poppet (19, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace poppet.
	Broken poppet spring (18, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace poppet spring.
	Inverted backup ring (14, figure 6-20).	Bleed system; disassemble in accordance with paragraph 6-45 and replace backup ring.



63-1275

Figure 6-8. SKU-6/A Reducer Assembly

Support Equipment Required

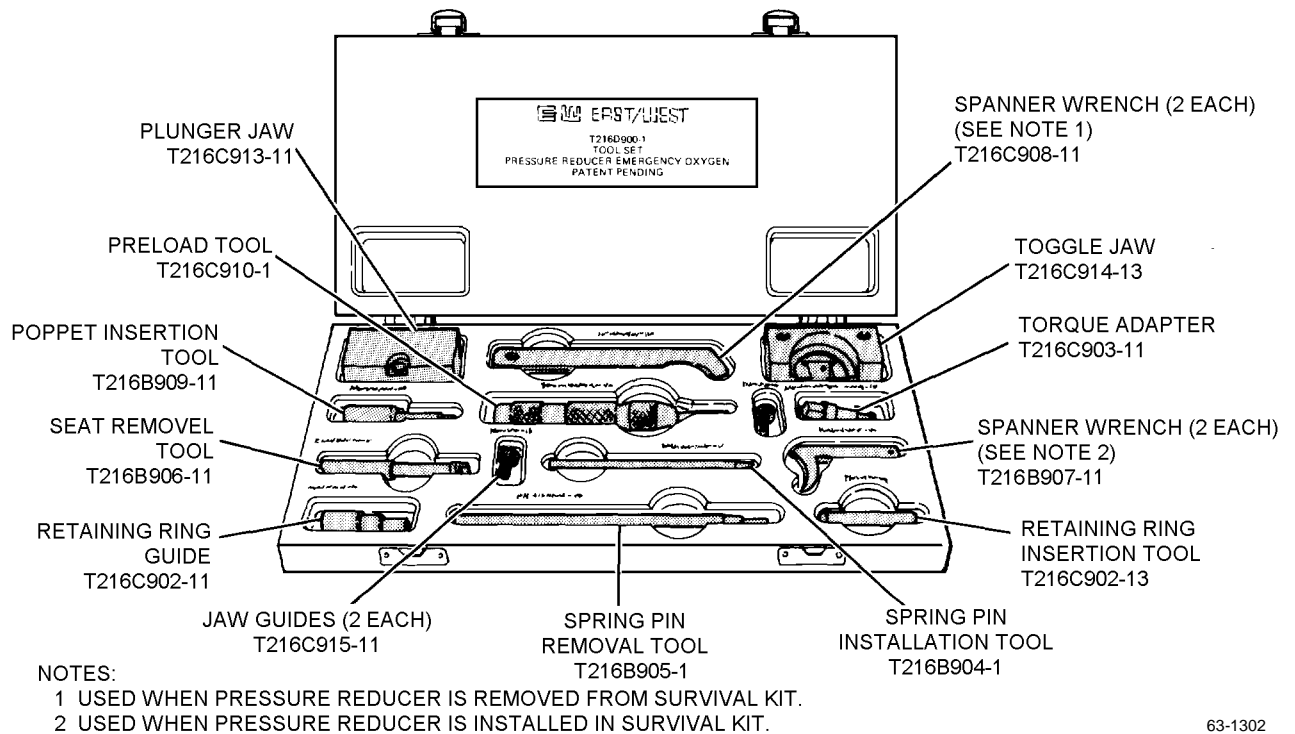
WARNING

Quantity	Description	Reference Number
1	Vise	—
1	Pressure Reducer Tool Set (figure 6-9)	T216D900-1 (CAGE 30941) NIIN 01-100-8928
1	Retaining Ring Pliers	S0100 (CAGE 79136)
1	Retaining Ring Pliers	SL0100 (CAGE 79136)
1	Hex Key, 5/32-inch	—

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in a minute quantity, coming in contact with oxygen can cause explosion or fire. Dust, lint, and fine metal particles are also dangerous.

NOTE

Maintenance personnel are advised to read and thoroughly understand the procedures of each step prior to attempting any maintenance action.

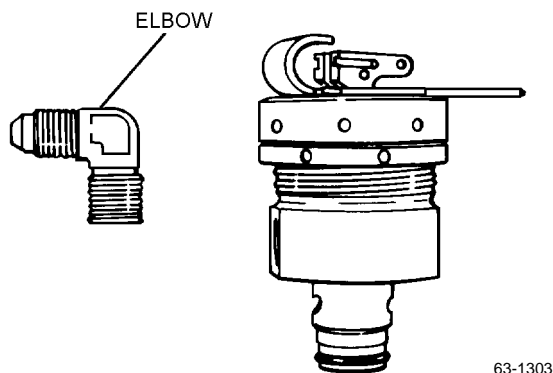


63-1302

Figure 6-9. Emergency Oxygen Pressure Reducer Tool Set

NAVAIR 13-1-6.3-2

1. Remove elbow from pressure reducer assembly.

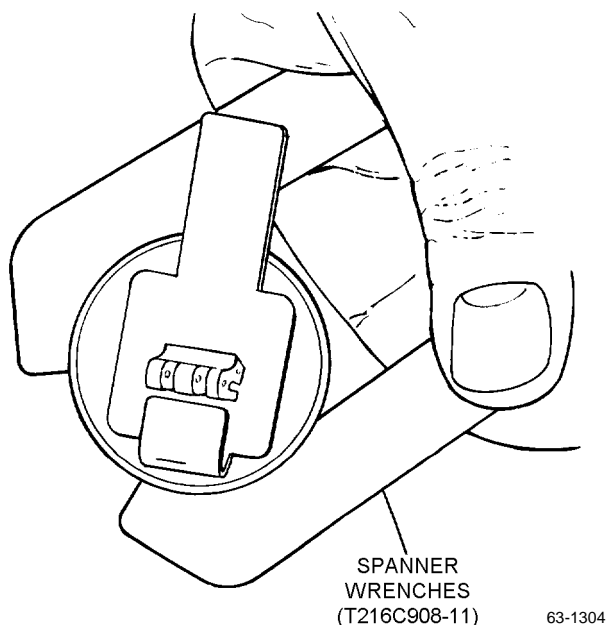


63-1303

Step 1 - Para 6-45

2. Remove and disassemble adjustment assembly as follows:

a. Position oxygen pressure reducer assembly with cap adjustment side up. Loosen lock ring, using spanner wrench (T216C908-11) in a clockwise rotation while holding the adjusting cap with the second spanner wrench.



63-1304

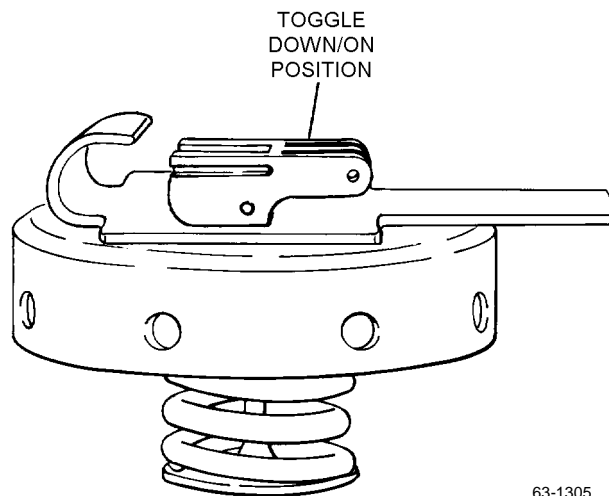
Step 2a - Para 6-45

NOTE

To permit hand removal of the adjustment assembly ensure that toggle is in upright (OFF) position. To obtain desired position, insert standard screwdriver in slot on either side of toggle and twist.

- b. Remove adjustment assembly from pressure reducer by rotating in a counterclockwise direction.

- c. Using standard screwdriver, trip/rotate toggle to down (ON) position to reduce tension on toggle and plunger spring assembly.

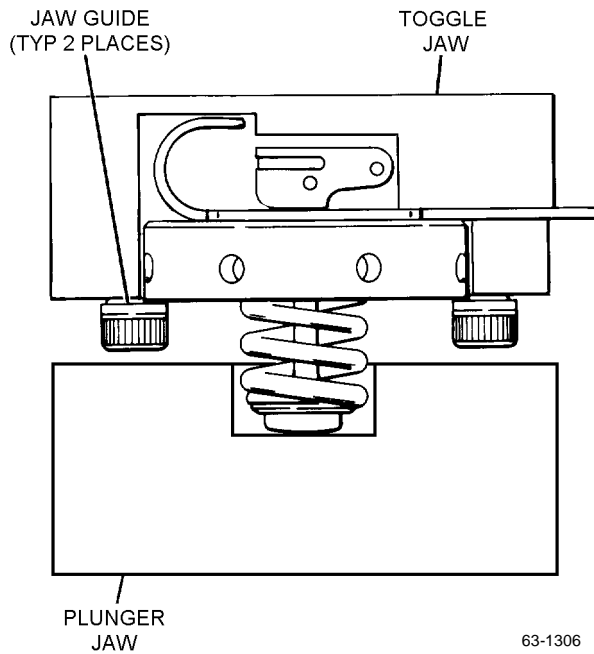


63-1305

Step 2c - Para 6-45

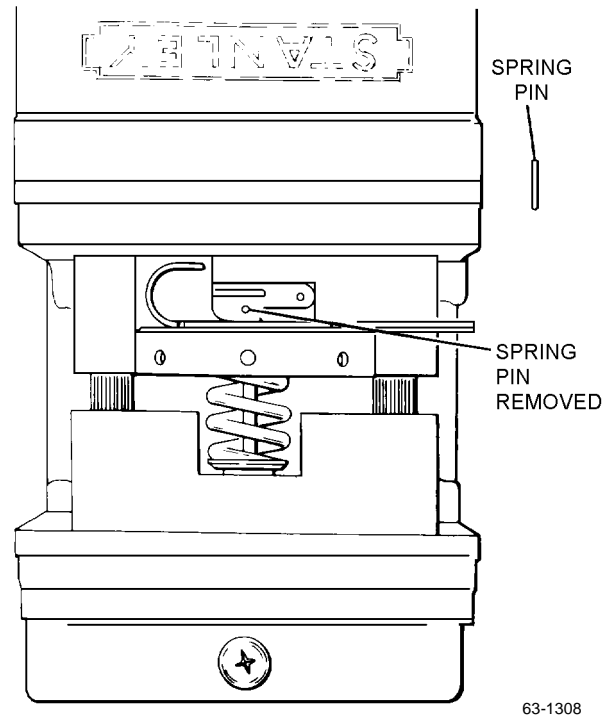
- d. Using 5/32-inch hex key, screw jaw guides into the two threaded holes in the toggle jaw.

e. Position adjustment assembly in the toggle and plunger jaws.



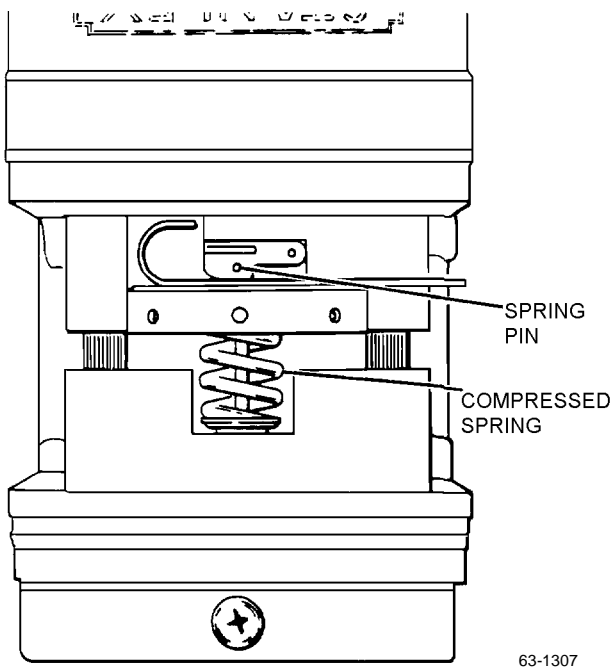
Step 2e - Para 6-45

g. Using spring pin removal tool, punch out spring pin and discard.



Step 2g - Para 6-45

f. Place toggle and plunger jaws in a vise. Align fixture and tighten to compress spring and relieve tension on the spring pin and toggle attachment.

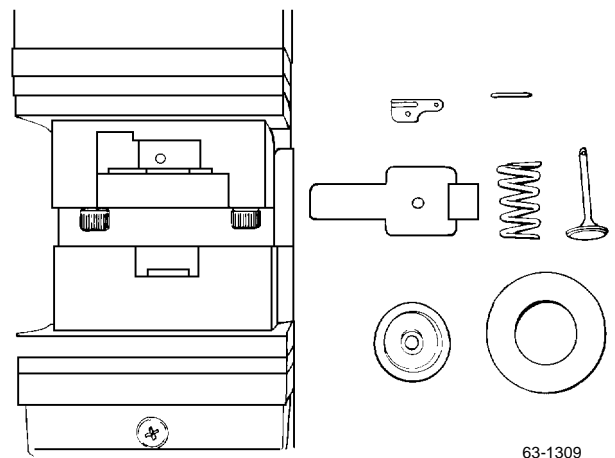


Step 2f - Para 6-45

NOTE

Spring pin is the only attachment point of components.

h. Loosen vise jaws to relieve pressure. Remove adjustment assembly from toggle and plunger jaws and disassemble. Replace worn or defective parts as necessary.



Step 2h - Para 6-45

NAVAIR 13-1-6.3-2

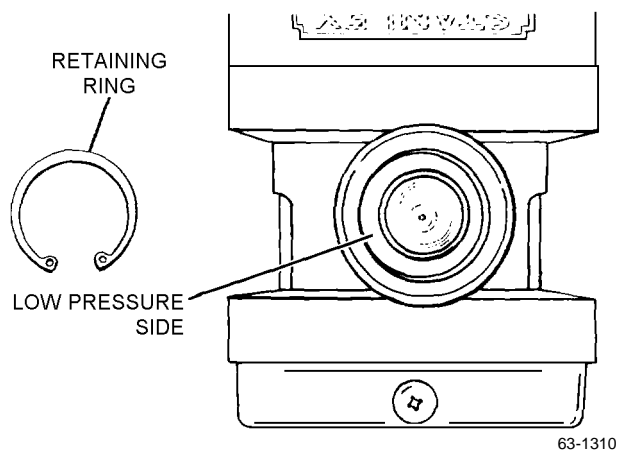
3. Disassemble low pressure assembly as follows:

a. Position oxygen pressure reducer assembly with adjustment side or low pressure side up and secure.

NOTE

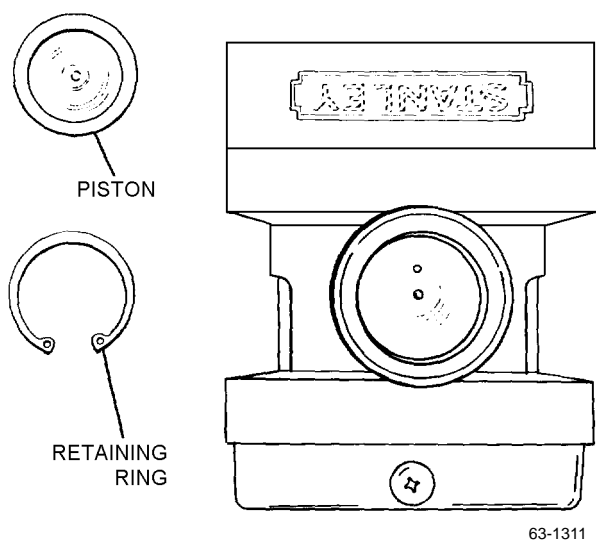
If adjustment assembly has not been removed, remove in accordance with [step 2](#).

b. Remove retaining ring using retaining ring pliers (SL0100) or equivalent.



Step 3b - Para 6-45

c. Remove piston from reducer body bore, using retaining ring pliers with points pressed against piston skirt.



Step 3c - Para 6-45

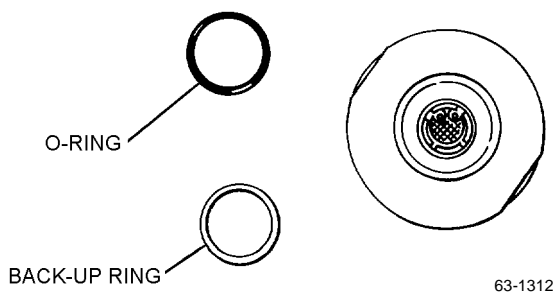
d. Remove and discard O-ring from piston.

4. Disassemble high pressure assembly as follows:

a. Position and secure oxygen pressure reducer assembly with high pressure assembly facing up.

b. Remove and discard O-ring from reducer assembly.

c. Remove back-up ring from reducer assembly.

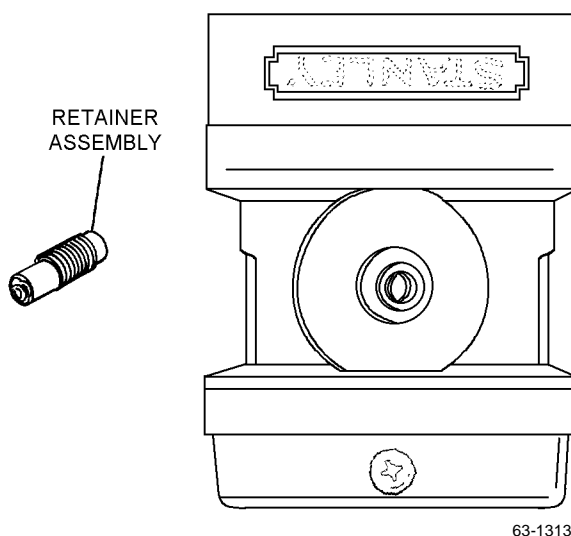


Step 4c - Para 6-45

NOTE

The retaining ring, filter, poppet guide, and spring usually withdraw from the reducer assembly housing still connected to the retainer.

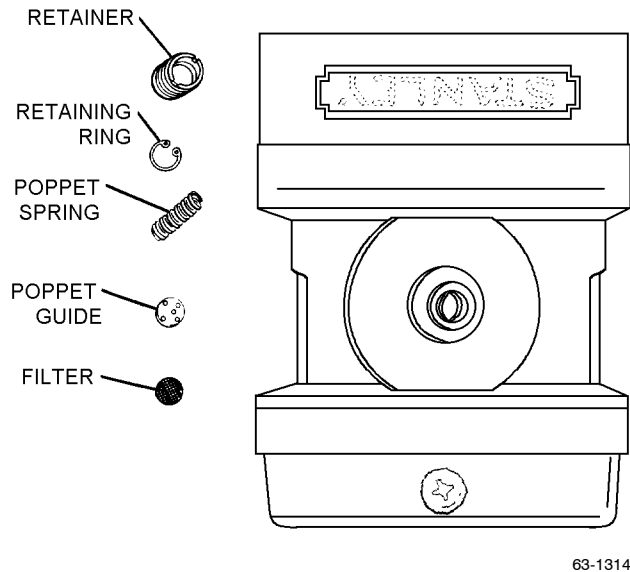
d. Using torque adapter, remove retainer from reducer body, by rotating counterclockwise.



Step 4d - Para 6-45

e. Remove retaining ring, using retaining ring pliers (S0100) or equivalent.

f. Remove filter, poppet guide, and poppet spring from retainer.



Step 4f - Para 6-45

NOTE

In some instances the seat will not come out with the stop, but will remain pressed in reducer sealing groove. Should this occur, follow procedures in [steps h, i](#) and [j](#) to remove seat without damage to reducer body.

g. Invert reducer body and remove poppet, stop, and seat.

h. (Use only if seat must be dislodged.) Insert seat removal tool into reducer.

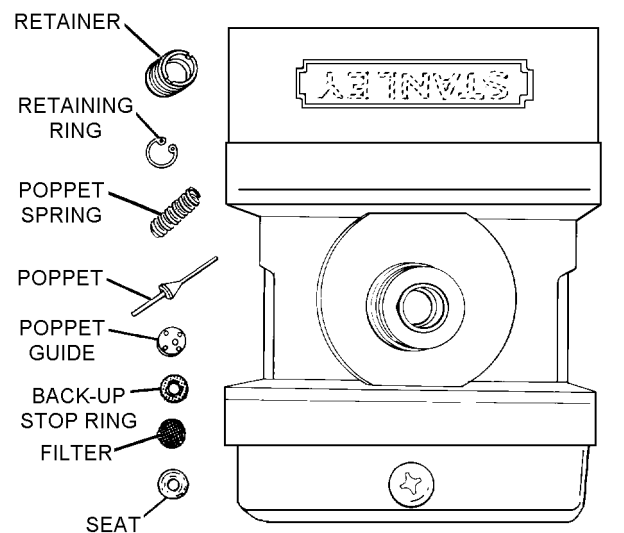


Do not cut into reducer body.

i. (Use only if seat must be dislodged.) Rotate seat removal tool until seat is loosened from reducer sealing groove.

j. (Use only if seat must be dislodged.) Visually inspect seating area inside reducer body to ensure seat has been dislodged and removed. Also ensure removal of any remaining foreign matter.

k. Replace worn or defective parts as necessary.



Step 4k - Para 6-45

6-46. CLEANING.

6-47. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.

6-48. CLEANING CUSHIONS AND FABRIC COMPONENTS. To clean seat cushions and all fabric components, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16791 NIIN 00-282-9699
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

NOTE

If using cleaning compound (MIL-C-25769), combine one part compound to three parts water. If using general purpose detergent, follow directions on container.

1. Prepare detergent or cleaning compound solution.
2. Apply solution to soiled area with spray or sponge.
3. Allow solution to remain on surface for a few minutes, then scrub with soft brush or cloth.
4. Rinse surface thoroughly with water; wipe with cloth or sponge.

NOTE

Repeat [steps 1 through 4](#) until material is clean.

5. Repeat [step 4](#) until material is free from all solution.
6. Allow material to dry thoroughly.

6-49. INSPECTION.

6-50. Inspect the disassembled parts for distortion, corrosion, and other damage in accordance with [table](#)

6-7. Inspect survival items in accordance with NAV-AIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

6-51. REPAIR AND REPLACEMENT.

6-52. REPAIR. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs performed shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

6-53. Repair of Cushion Assemblies. To repair the cushion assembly, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Cushion Cover Assembly	P/N 14075-7 (CAGE 24632)

1. Sew loose or open seams, broken stitches, and small rips and tears.

NOTE

Determine if repaired cushion assembly warrants new cushion cover. If new cover is needed, it may be procured through normal supply channels using reference number cited in Materials Required Table.

2. Install cushion cover assembly.

6-54. REPLACEMENT. All individual components that fail to pass inspection shall be replaced except where repair procedure is indicated. Refer to source code listing (SM&R CODE) in the [Numerical Index](#) of the Illustrated Parts Breakdown to aid in determining replaceable components. All adjustable components or assemblies that fail to pass respective tests shall be adjusted to meet required specifications.

Table 6-7. Inspection

Component	Task
SKU-6/A Seat Survival Kit (Figure 6-14)	
Bottom Cushion Assembly (1 and 2, figure 6-14)	Check fabric for wear, tears, stains, frayed edges, and loose or broken stitches.
	Check for deteriorated padding.
	Check for presence and security of snaps on rear of cushion.
	Check that pile fastener tape is securely fastened to forward bottom section of cushion surface.
Rucksack Assembly (3 and 4, figure 6-14)	Check slide fastener for security of attachment and trouble-free operation.
	Inspect container material for damage and for loose, broken, or frayed stitching.
	Check that hook and pile fastener tape is firmly attached to rucksack assembly flaps.
	Check for presence and secure attachment of grommets.
	Check static line assembly cord for wear, tears, fraying, and loose or broken stitches.
	Inspect survival equipment in accordance with NAVAIR 13-1-6.5.
Buckle Strap Assembly (5 and 6, figure 6-14)	Check strap assembly for stains, wear, tears, fraying, and loose or broken stitches and corrosion.
	Check for presence and secure attachment of grommets.
	Check buckle for obvious damage and wear, corrosion, and scratches penetrating finish.
AN/URT-33A Beacon Assembly	Inspect in accordance with NAVAIR 16-30URT33-1.
AN/URT-33A Beacon Actuation Lanyard Assembly (10, figure 6-14)	Check cable for attachment and security of loop ends.
Orange Ring and Release Lanyard Assembly (7 and 8, figure 6-14)	Check orange pull ring for cuts or breaks and secure attachment to lanyard.
	Check locking pins for excessive burrs and secure attachment.
	Check lanyard for stains, wear, tears, fraying, and loose or broken stitches.
Seat Pan Assembly (Figure 6-15)	
Locking Hooks (1, figure 6-15)	Check for damage, scratches penetrating finish, corrosion and distortion.
Beacon Bracket Assembly (5, figure 6-15)	Check for damage, bent flanges, worn, torn, frayed, loose hook and pile fastener tapes, and scratches penetrating finish.
Lapbelt Assemblies (14, 15, 16, 17, and 18, figure 6-15)	Check webbing for stains, wear, tears, fraying, and loose or broken stitches.
	Check adjuster for obvious damage and wear, corrosion, scratches penetrating finish, loose attachment, and weak release spring; fabric release tab for stains, wear, tears, loose or broken stitches, and legible instruction marking.

Table 6-7. Inspection (Cont)

Component	Task
Seat Pan Assembly (Figure 6-15) (Cont)	
Lapbelt Assemblies (14, 15, 16, 17, and 18, figure 6-15) (Cont)	Check adjuster for proper operation; adjuster must release webbing with a maximum pull force of 8 lb. on yellow tab. Harness webbing shall move freely through adjuster in either direction.
	Check connectors for obvious damage and wear, corrosion, loose attachment, and weak spring. Check end fittings for deformation, bends, and corrosion.
Seat Panel (20, figure 6-15)	Check structure for damage, dents, nicks, gouges, and scratches penetrating finish. Check neoprene pads for deterioration, cracks, nicks, and splits. Check for loose inserts and damaged or stripped threads in insert.
Miscellaneous Hardware & Attaching Parts	Check threaded parts (screws, nuts, bolts) for damaged or stripped threads. Check nuts for rounded hexagon flats. Check washers and spacers for damage, bends, and elongated holes. Check self-locking bolts for damaged or worn locking devices (nylon pellets).
Emergency Oxygen Assembly (Figure 6-16)	
Cover Assembly (1, figure 6-16)	Check for excessive dents, gouges, and other obvious damage.
Tube Assembly (4, figure 6-16)	Check for flattened, dented, or out-of-round tubing diameters.
	Check nuts for rounded corners or damaged threads.
Manual Oxygen Release Assembly (11, figure 6-16)	Check for damaged green loop.
	Check for dents in cable conduit.
	Check for ease in operation.
	Check terminal assembly metal end fitting for damage.
Oxygen Cylinder Clamps (22 and 23, figure 6-16)	Check for secure attachments of clamps to seat panel.
	Check for damaged clamp inserts.
Cable Assemblies	Check for broken, bent, or crushed conduit.
	Check cables for damaged or broken strands.
	Check for security of terminal balls on cables and couplings on conduit.
	Check operation of cables within respective conduits and ensure that cables move freely without binding.
Manifold Assembly (Figure 6-17)	
Connectors (3, 5, and 7, figure 6-17)	Check connectors for damaged threads and rounded hexagon flats.
Relief Valve (1, figure 6-17)	Inspect for damaged threads and rounded hexagon flats.
Manifold Body (12, figure 6-17)	Inspect ports and threads for damage.

Table 6-7. Inspection (Cont)

Component	Task
Automatic Oxygen Release Assembly (Figure 6-18)	
Cable Assembly (1, figure 6-18)	Check cable for fraying, broken strands, and security of swaged balls.
	Check cable sleeve for wear, breaks, distortion and fraying.
Conduit Assembly (7, figure 6-18)	Check for dents in conduits.
	Check for damaged threads on adjuster side of conduit.
	Check cable for free travel within cable housing.
	Check cable for fraying, broken strands, and security of swaged balls.
Rotor and washer (4 and 3A, figure 6-18)	Check rotor and washer for wear.
Oxygen Release Assembly	Check for ease of operation.
Housing (9, figure 6-18)	Check for damage around contour end to threads.
Reducer, Manifold, Cylinder Assembly (Figure 6-19)	
Oxygen Cylinder (1, figure 6-19)	Check surface for cracks, nicks, gouges, deep scratches, bulges, or dents.
Filler Valve and Valve Core Assembly (10, 11 and 13, figure 6-19)	Check filler valve assembly for presence of valve cap, damaged threads, and leakage around valve core (as applicable).
Manifold Body (21, figure 6-19)	Check ports and threads for damage.
Oxygen Gage (14, figure 6-19)	Check gage for cracked or missing glass, bent or stuck needle, and dial for legibility.
	Check for rounded corners of hexagon flats, security of gage cover and damaged threads.
	Check for presence and security of integral filter in threaded shaft.
Pressure Reducer Assembly (Figure 6-20)	
Toggle (2, figure 6-20)	Check toggle for galling of reset slot and for proper seating of swaged balls at cable ends.
Reducer Body (24, figure 6-20)	Check body for gouges or other damage.
	Check for damaged threads on outlet fitting.
Adjusting Cap (4, figure 6-20)	Check adjusting cap and lock ring for damaged adjusting holes.
Toggle-Anti-rotation Spacer (3, figure 6-20)	Check for excessive bending or galling.

6-55. Replacement of Lapbelt Adjuster. To replace missing or damaged lapbelt adjuster on the restraint harness, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Adjuster, Lapbelt	184C100-1 (CAGE 30941)
As Required	Sealing Compound, Locking and Retaining, Grade A	MIL-S-22473 NIIN 00-067-6744 (Note 1)

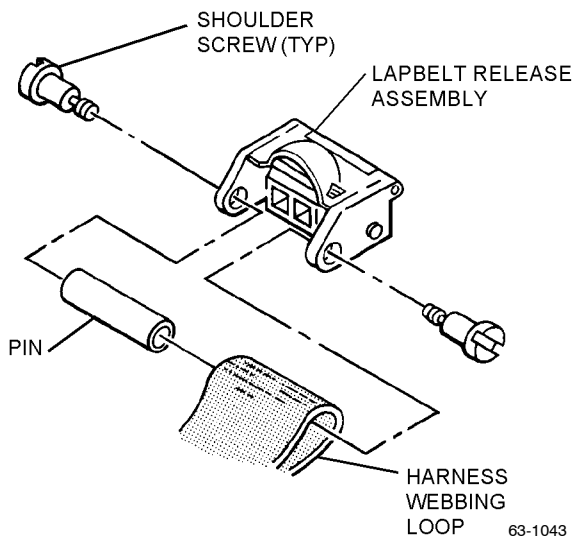
Notes: 1. Use any contrasting color.

NOTE

Replacement procedures can be used on both right and left restraint assemblies.

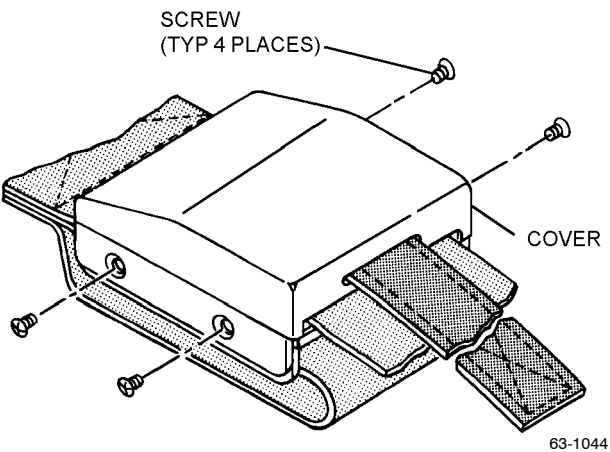
1. Remove existing lapbelt adjuster from restraint harness as follows:

a. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing, and slide pin out of harness webbing loop. Retain all parts.



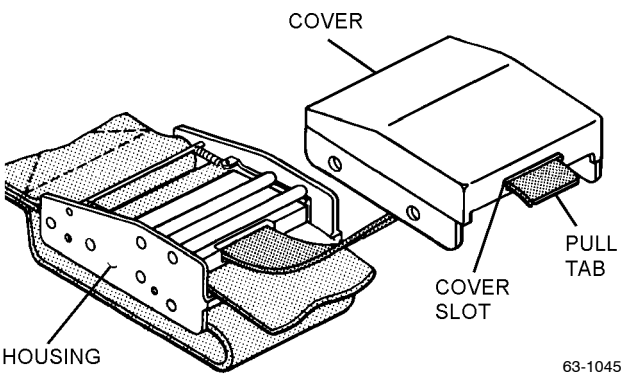
Step 1a - Para 6-55

b. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



Step 1b - Para 6-55

c. Remove cover from lapbelt adjuster housing, and slide pull tab through cover slot.

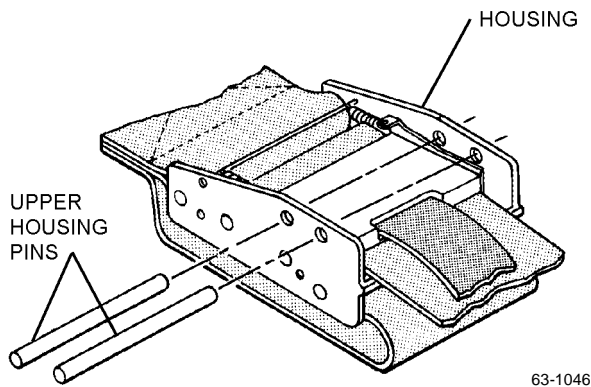


Step 1c - Para 6-55

d. Slide upper housing pins out of housing.

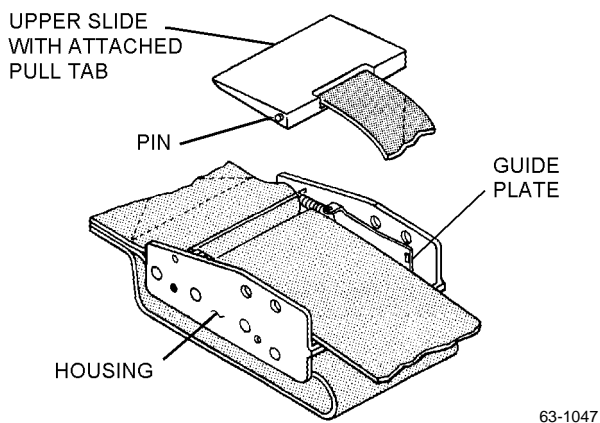
NOTE

Slides are held to guide plates by pins. Pull slide up so guide plates are above edge of housing, and rotate slide out of guide plates.



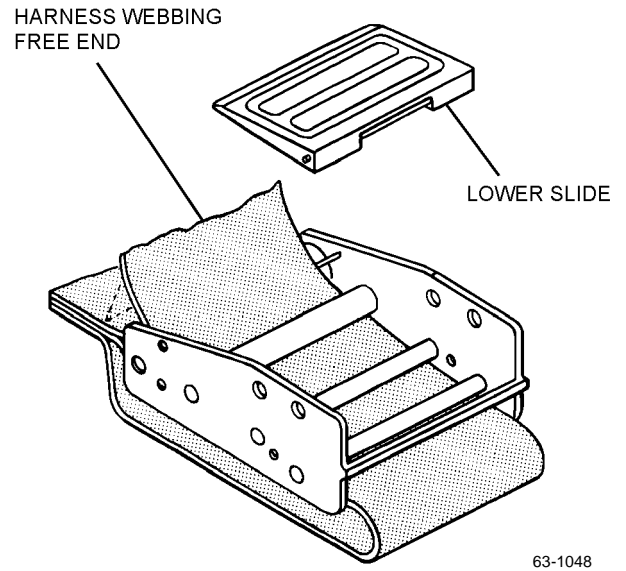
Step 1d - Para 6-55

e. Remove upper slide with attached pull tab.



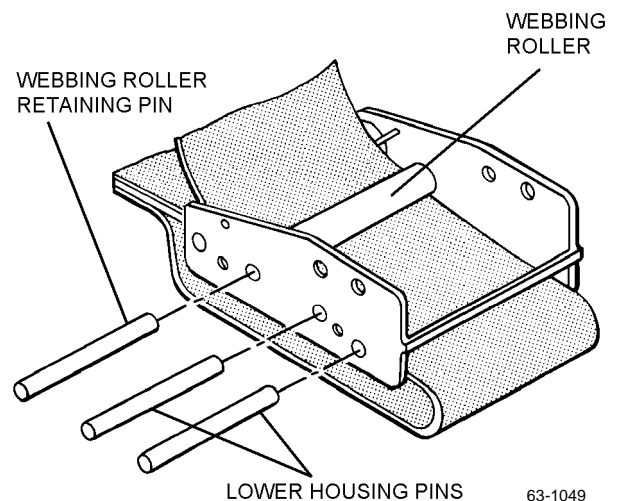
Step 1e - Para 6-55

f. Lift free end of harness webbing, and remove lower slide.



Step 1f - Para 6-55

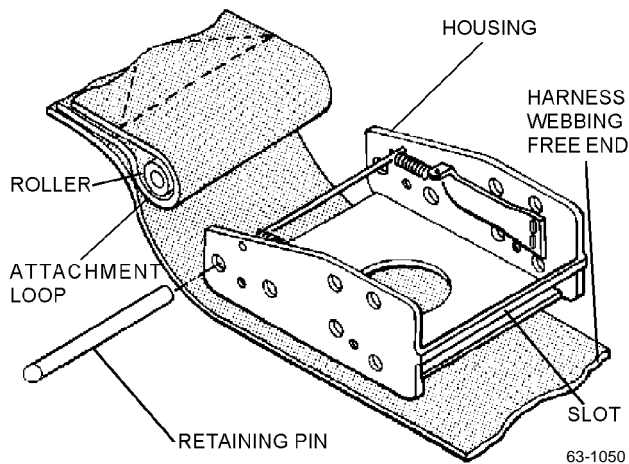
g. Position guide plates up and out of way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



Step 1g - Para 6-55

NAVAIR 13-1-6.3-2

h. Pull free end of harness webbing through slot in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



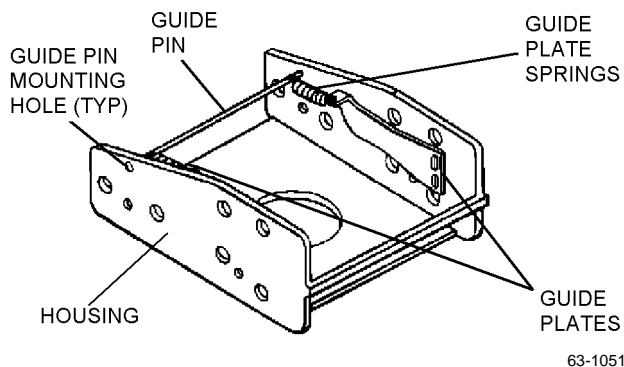
Step 1h - Para 6-55

2. Install new lapbelt adjuster as follows:

NOTE

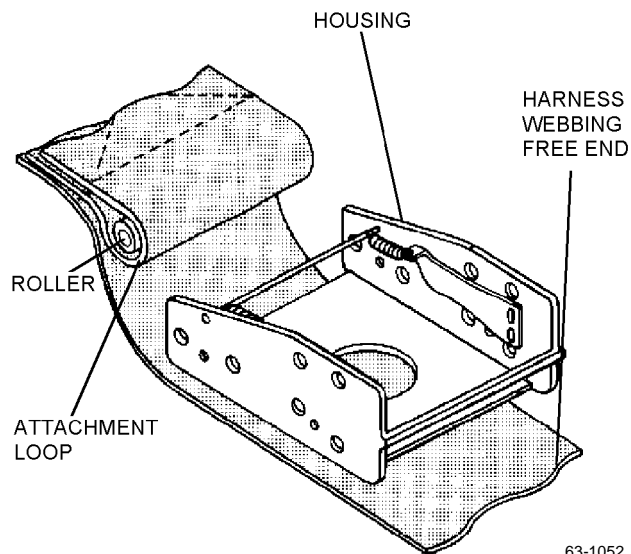
The six pins (two retaining and four housing) are interchangeable. The two rollers are interchangeable.

a. If required, slide guide plate springs onto guide pin; ensure that guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



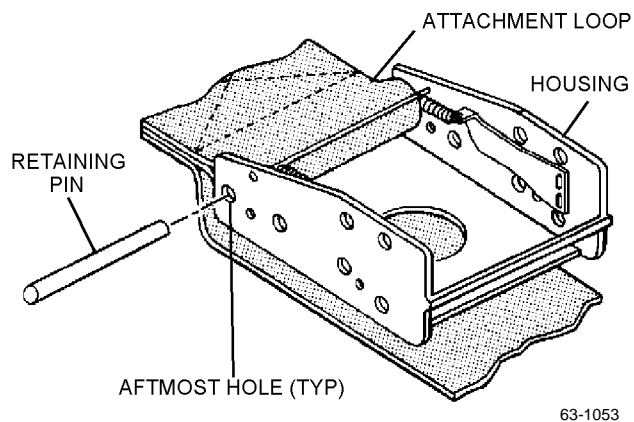
Step 2a - Para 6-55

b. Insert roller into attachment loop of harness webbing. Place adjuster housing on top of free end of harness webbing so that aft end of housing faces attachment loop.



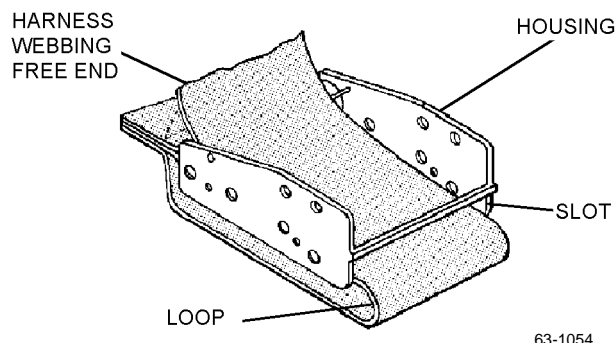
Step 2b - Para 6-55

c. Position housing onto attachment loop and roller. Align hole through roller with aftmost holes in housing, and install retaining pin.



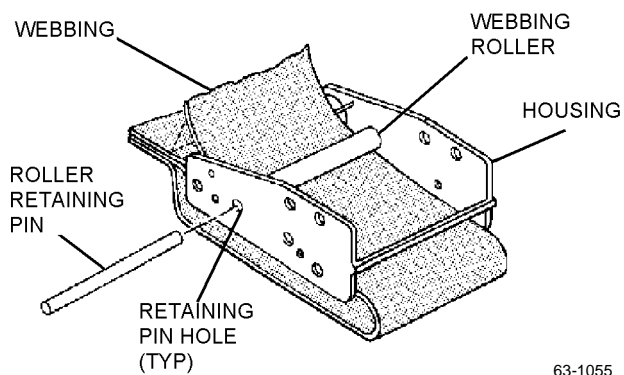
Step 2c - Para 6-55

d. Fold free end of webbing back toward housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.



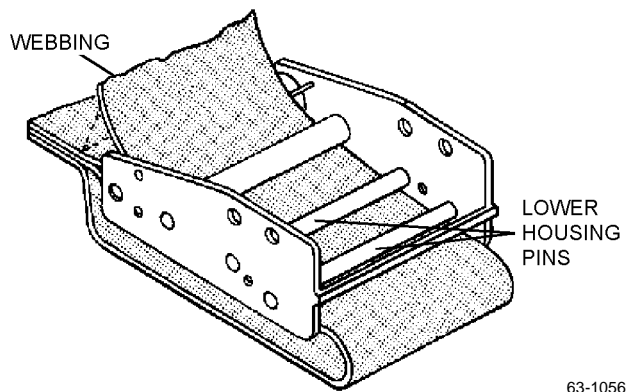
Step 2d - Para 6-55

e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing, and insert roller retaining pin.



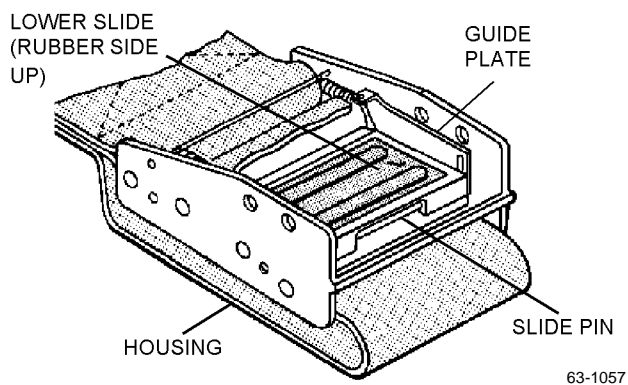
Step 2e - Para 6-55

f. Insert lower housing pins; ensure that pins are resting on top of webbing.



Step 2f - Para 6-55

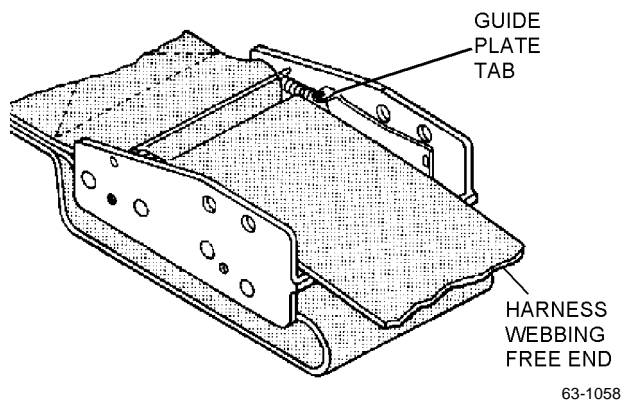
g. Position guide plates into housing on top of lower housing pins; install lower slide rubber side up. Ensure that slide pin is correctly positioned into lower slots of guide plates.



Step 2g - Para 6-55

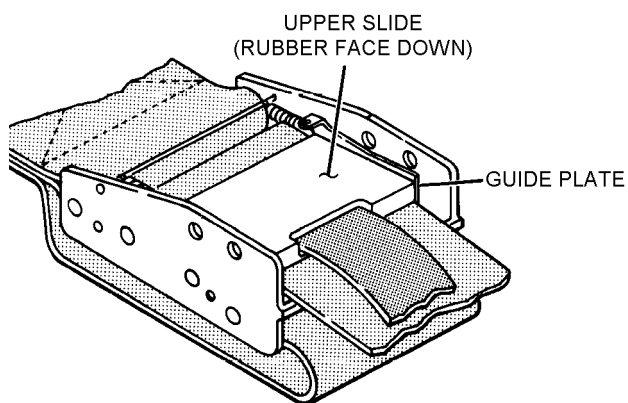
NAVAIR 13-1-6.3-2

h. Position harness webbing free end under tabs of guide plates, and lay webbing down over lower slide.



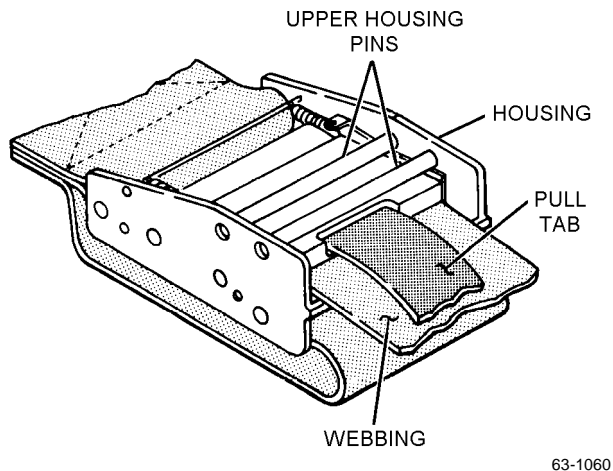
Step 2h - Para 6-55

i. Install upper slide, rubber face down. Ensure that lower slide does not come out of place. Ensure that slide pins sit securely in slots of guide plates.



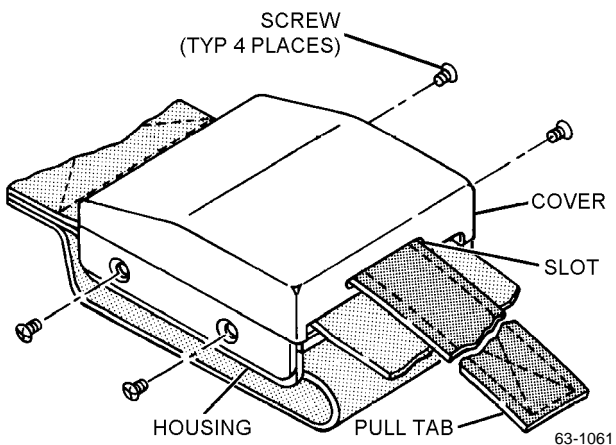
Step 2i - Para 6-55

j. Install upper housing pins. Ensure that slides operate correctly; pull on pull tab to check simultaneous movement of slides. Webbing shall slide with ease through adjuster in either direction.



Step 2j - Para 6-55

k. Insert pull tab from inside out through slot in cover. Place cover on housing and align four screw holes. Apply sealing compound to threads of four screws, and secure cover to housing. Check lapbelt adjuster for proper operation



Step 2k - Para 6-55

3. Apply sealing compound to threads of two shoulder screws, and install lapbelt release assembly removed in [step 1a](#).

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

6-56. ASSEMBLY.

WARNING

It is possible to install inlet tubing connector, P/N 295B335-11 (small fitting) and outlet tubing connector, P/N AN919-7D (large fitting) backwards. Ensure connectors are installed in accordance with [figure 6-17](#).

NOTE

The tamper dot on the Oxygen Hose Assembly shall be applied to the fitting in a manner which provides easy identification for inspection purposes when the seat kit is installed in the seat.

Use any contrasting color when applying tamper dots to oxygen fittings.

6-57. Assemble survival kit using the index numbers of [figures 6-14 through 6-20](#) as a reference. Assemble in reverse order of disassembly and refer to [paragraph 6-42](#). After nuts and fittings are properly torqued (refer to [Appendix B](#)), apply tamper dots to all oxygen fittings shown on [figures 6-16 through 6-20](#) using lacquer specification MIL-L-7178, Fed. Std. 595. Torque value for reducer retainer shall be 32 to 35 lb-in. after assembly. Torque value for inlet tubing connector on oxygen communication hose assembly shall be 80 ± 10 lb-in. Torque value for outlet tubing connector on oxygen communication hose assembly shall be 120 ± 10 lb-in. Apply sealing compound to 50% of threads on parts indicated in Illustrated Parts Breakdown. Prior to applying sealing compound, wipe off any contaminants with cloth moistened with water.

Materials Required

Quantity	Description	Reference Number
As Required	Krytox 240 AC, Type III	MIL-G-27617 NIIN 00-961-8995
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Heptane	—
As Required	Solid Film Lubricant	5306 (CAGE 85932)
As Required	Thread Locking Compound	VC-3 (CAGE 04866) NIIN 00-163-5792
As Required	Adhesive	EpoxyLite 8751 (CAGE 11147)
As Required	Adhesive	EC847 (CAGE 76381)
As Required	Adhesive, Type I, Class 2	MIL-A-46050
As Required	Adhesive	MIL-A-5540

1. Assemble pressure reducer assembly in accordance with [paragraph 6-58](#).

2. Assemble survival kit in reverse order of disassembly. Refer to [paragraph 6-42](#).

3. Purge and charge emergency oxygen system in accordance with [paragraph 6-38](#).

4. Perform functional check of emergency oxygen system in accordance with [paragraph 6-37](#).

5. Adjust in accordance with [paragraphs 6-60 through 6-62](#) as necessary.

6-58. ASSEMBLY OF PRESSURE REDUCER ASSEMBLY. The following procedures assemble the reducer assembly in three major operations: assembly of the high pressure assembly, assembly of the low pressure assembly, and assembly and preadjustment of the adjustment assembly. It is imperative that the following assembly sequence be followed if the entire reducer assembly has been disassembled. See [figure 6-10](#) and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Krytox 240 AZ	MIL-G-27617
As Required	Tape, Antiseize	MIL-T-27730
As Required	Thread Locking Compound	VC-3 (CAGE 04866)
As Required	Plastic Bag	MIL-B-117
1	Spring Pin	MS171435
1	O-Ring	NAS1611-014
1	O-Ring	MS28775-117

Support Equipment Required

Quantity	Description	Reference Number
1	Vise	—
1	Pressure Reducer Tool Set (see figure 6-11)	T216D900-1 (CAGE 30941) NIIN 00-100-8928
1	Retaining Ring Pliers	S0100 (CAGE 79136)
1	Retaining Ring Pliers	SL0100 (CAGE 79136)
1	Torque Wrench 0-150 in-lb	TE-6FUA (CAGE 55729) or Equivalent
1	Toggle Reset Tool	Fabricate IAW paragraph 6-70
1	Hex Key 5/32-inch	—

WARNING

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in a minute quantity, coming in contact with oxygen can cause explosion or fire. Dust, lint, and fine metal particles are also dangerous.

NOTE

Maintenance personnel are advised to read and thoroughly familiarize themselves with

each step prior to the accomplishment of the operations set forth in this procedure.

Discard and replace all packings, seals, cotter pins, and teflon sealing tape removed during disassembly of emergency oxygen system.

All complete assemblies not immediately being returned to service shall be sealed in plastic bags with all external fittings properly capped.

1. Assemble high pressure assembly as follows:

NOTE

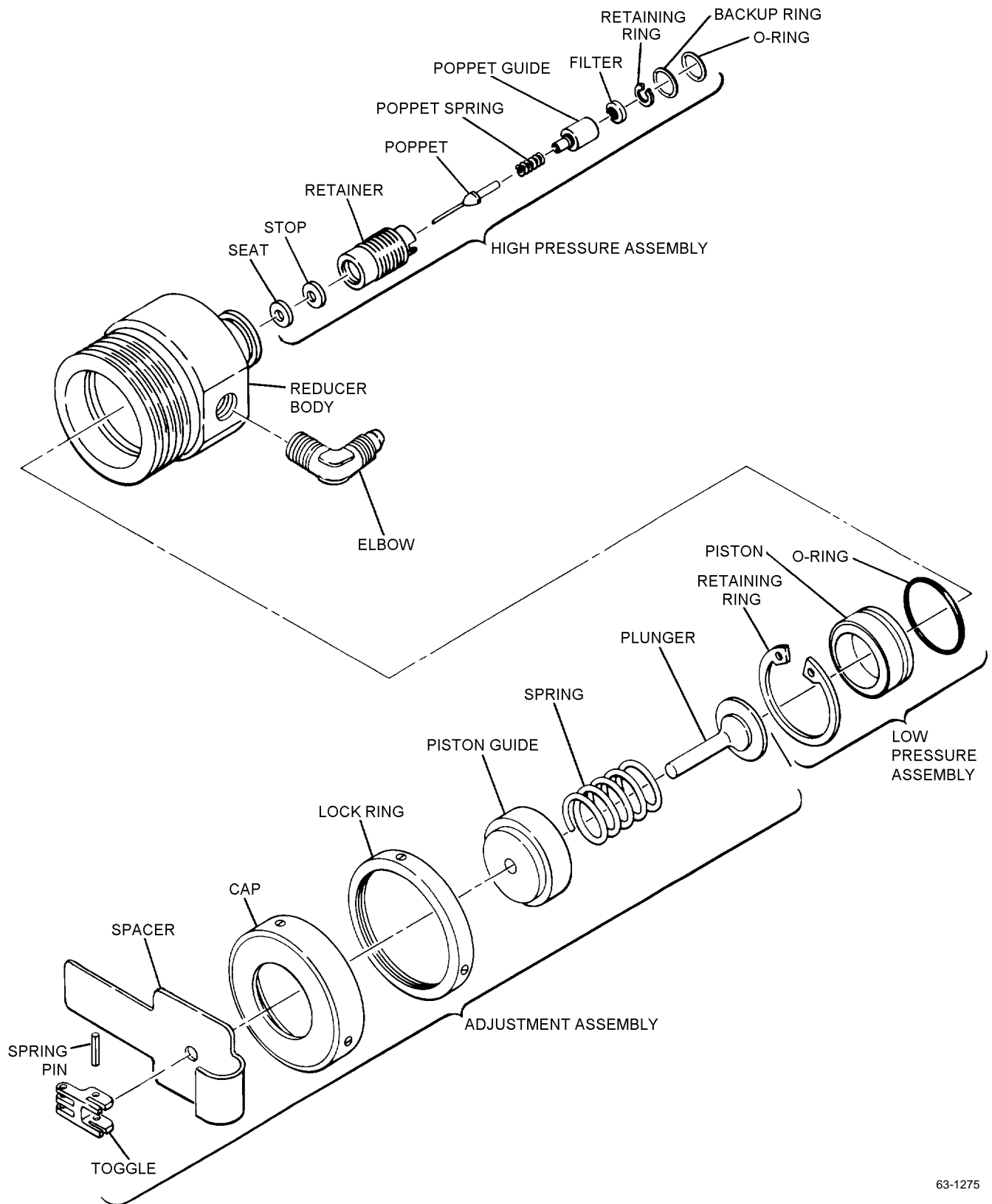
If the entire reducer assembly has not been disassembled it is necessary to remove the adjustment assembly and low pressure assembly to correctly perform the following assembly procedures.

- a. Ensure that the adjustment assembly has been removed in accordance with [paragraph 6-45 step 2](#).

- b. Ensure that the low pressure assembly has been removed in accordance with [paragraph 6-45 step 3](#).

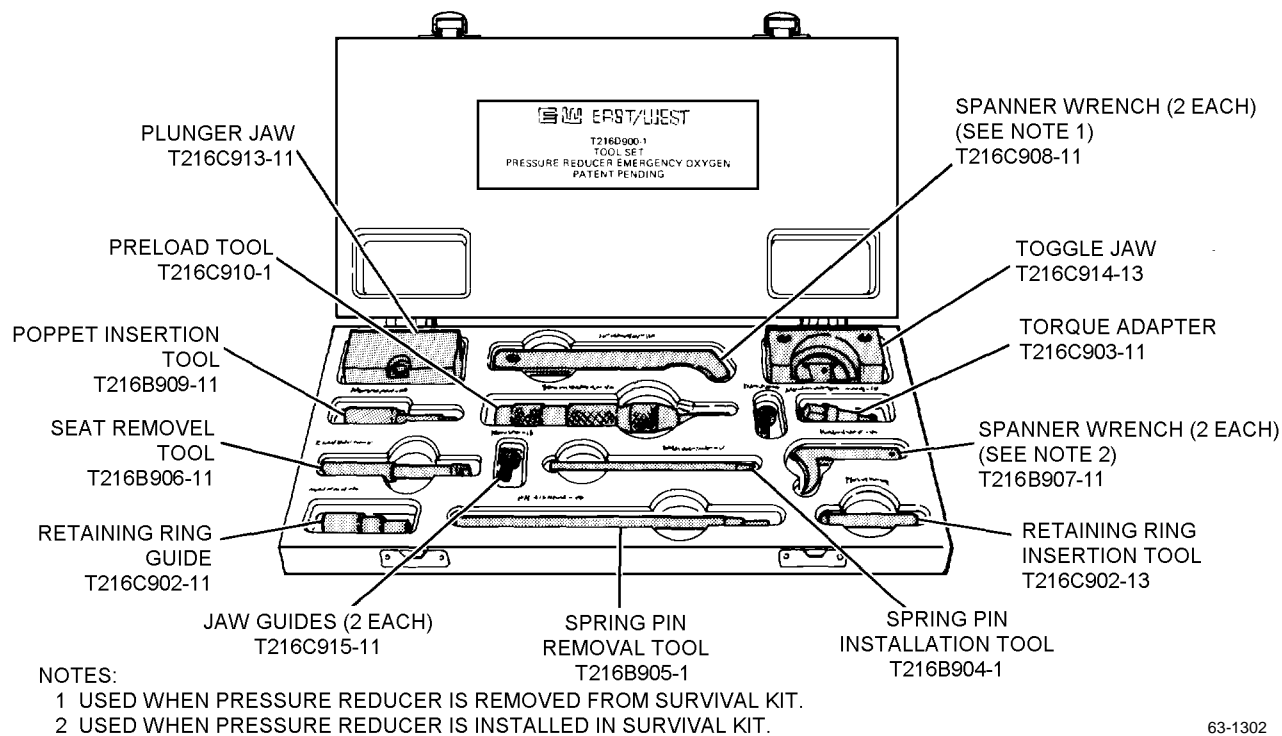
- c. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

- d. Position retainer with threaded side down.



63-1275

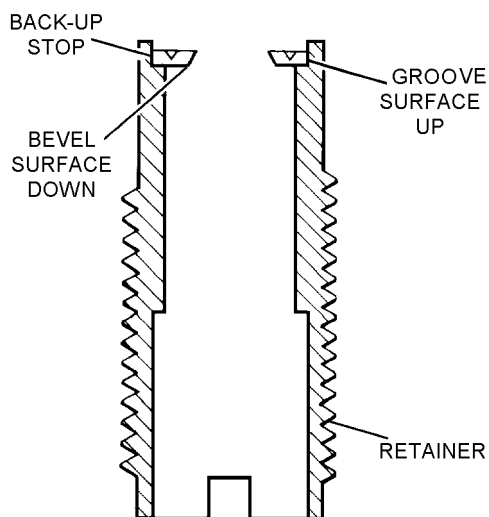
Figure 6-10. SKU-6/A Reducer Assembly



63-1302

Figure 6-11. Emergency Oxygen Pressure Reducer Tool Set

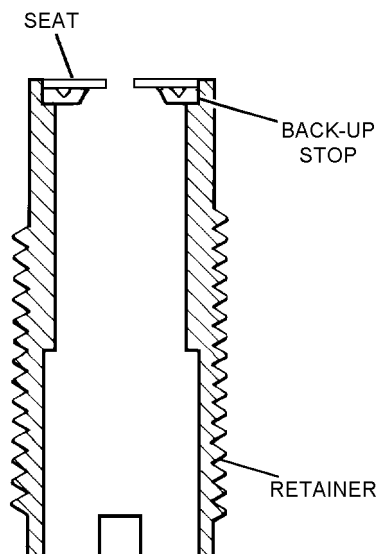
e. Install stop in upper groove of retainer, positioning bevel surface down and groove surface up.



63-1172

Step 1e - Para 6-58

f. Place seat on top of stop ensuring proper alignment within retainer groove. Push firmly on seat with finger so that seat is retained in place.



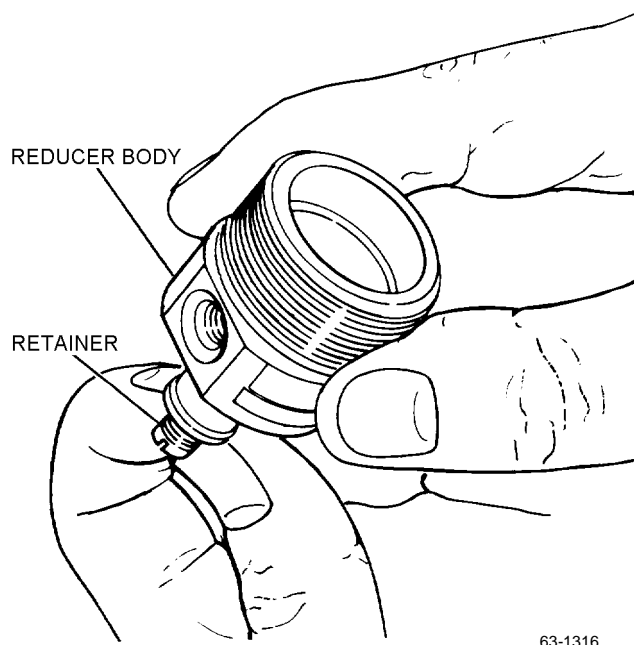
63-1173

Step 1f - Para 6-58

g. While holding retainer in an upright position with stop and seat positioned on top, lower reducer body onto retainer and slowly screw retainer into high pressure inlet port of reducer body.

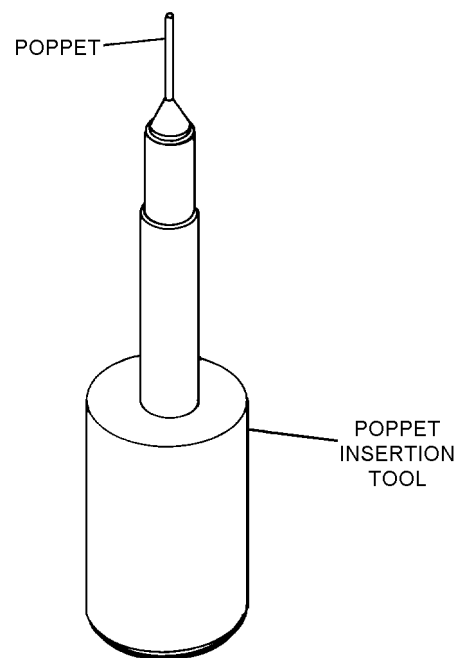
i. Torque retainer into reducer body to 35 to 40 lb-in. using a torque adapter and torque wrench.

j. Using poppet insertion tool, place poppet into tool so that cone-shaped part of poppet faces away from heavy end of tool.



63-1316

Step 1g - Para 6-58



63-1175

Step 1j - Para 6-58

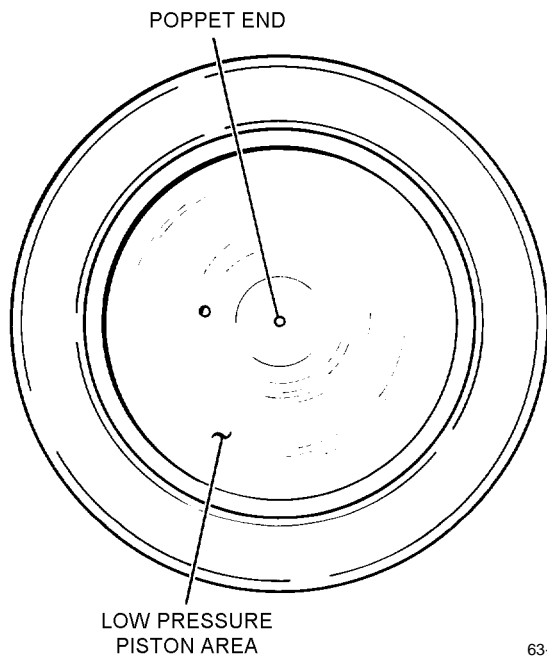
h. Using torque adapter mounted on a 3/8-inch nut driver, continue screwing retainer into high pressure port until snug. Visually inspect for proper alignment of stop and seat into reducer body.



Be careful when inserting poppet that no pressure is applied which could bend poppet shaft. Be certain end of poppet extends into low pressure piston area.

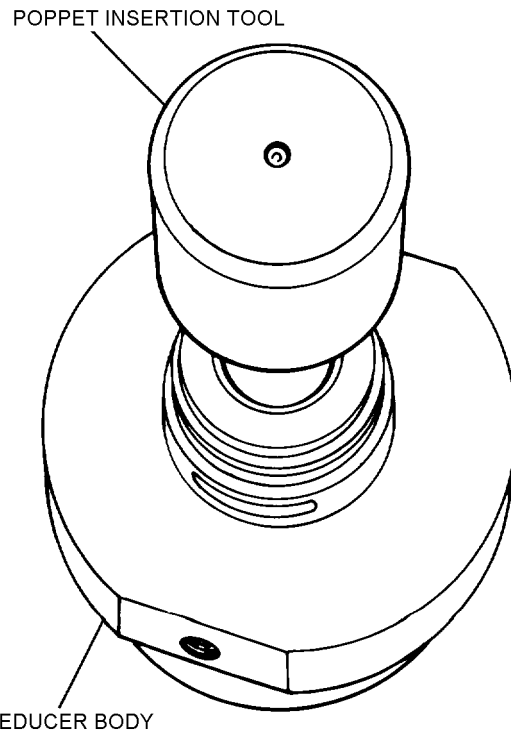
k. Hold reducer body/housing with high pressure retainer side down. Slowly lower reducer housing onto poppet. Carefully rock and turn poppet insertion tool until poppet end is seen to extend into low pressure piston area.

l. Leaving poppet insertion tool inserted, turn entire assembly over so that high pressure or retainer assembly and poppet insertion tool are now facing up.



63-1317

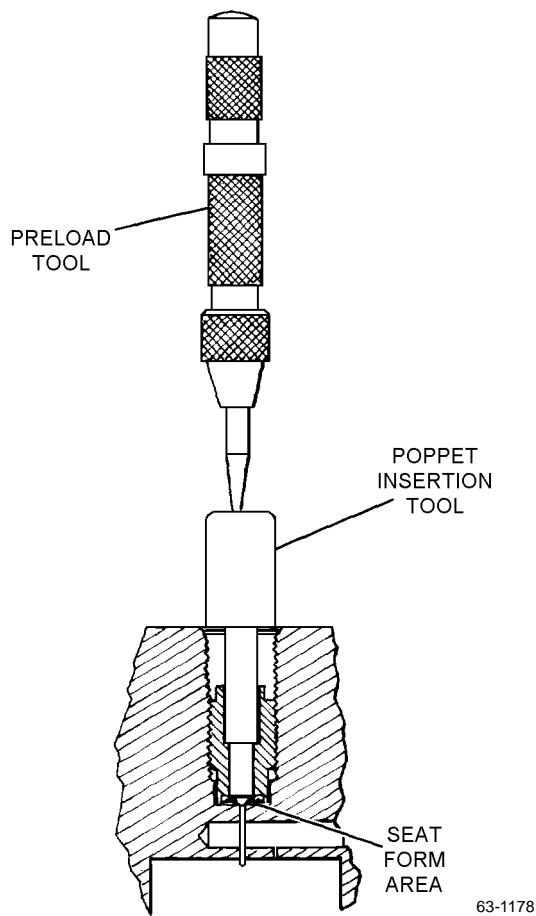
Step 1k - Para 6-58



63-1318

Step 1l - Para 6-58

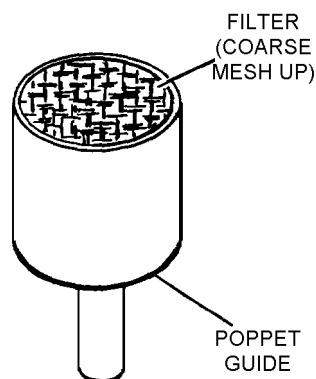
m. Place preload tool into dimple on top of poppet insertion tool. Press down once on preload tool until it unloads with a snap. This forms seat into its correct angle.



Step 1m - Para 6-58

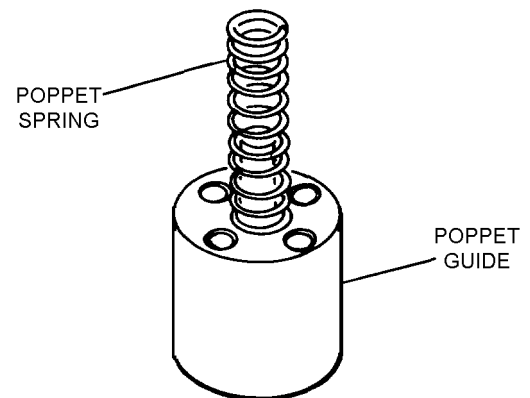
n. Remove poppet insertion tool so that poppet remains positioned inside reducer body against seat.

o. Press filter with coarse mesh up into wide end of poppet guide.



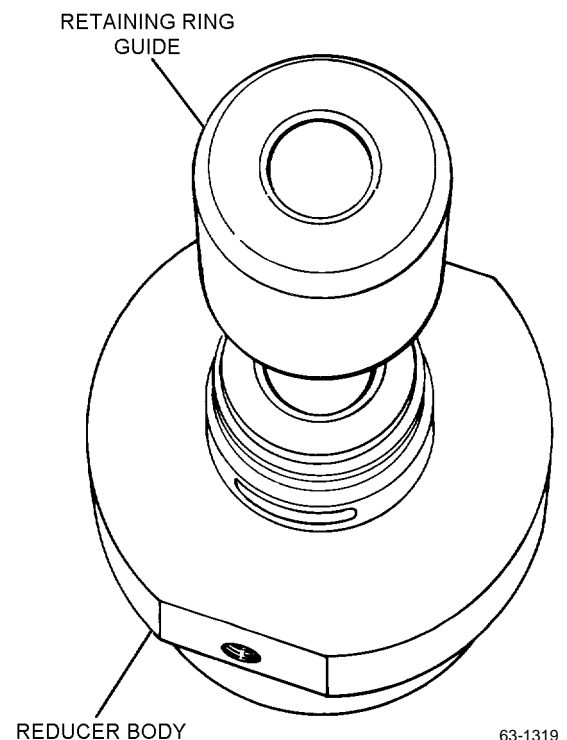
Step 1o - Para 6-58

p. Secure poppet spring to poppet guide by pressing spring onto shaft end of guide.



Step 1p - Para 6-58

q. Position retaining ring guide into retainer so that guide engages tangs of retainer.

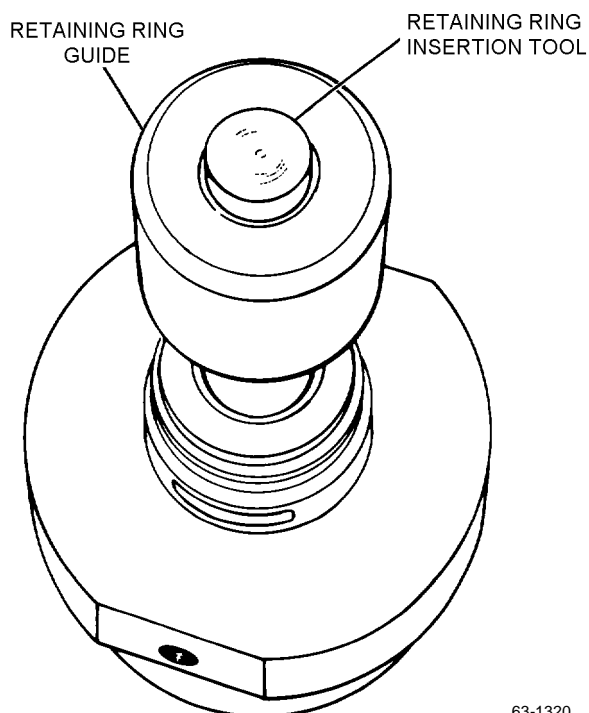


Step 1q - Para 6-58

r. Insert poppet guide and spring with spring end down into opening in retaining ring guide.

NAVAIR 13-1-6.3-2

s. Using retaining ring insertion tool, ensure that poppet guide and spring units are properly positioned inside retainer.



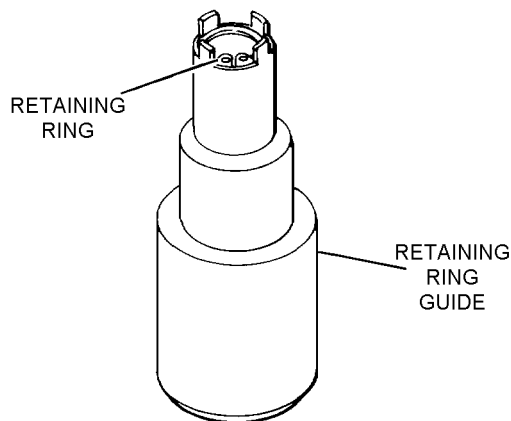
63-1320

Step 1s - Para 6-58

t. Remove retaining ring insertion tool and retaining ring guide from reducer housing.

u. Visually check that filter end of poppet guide is slightly higher than ends of retainer.

v. Using retaining ring pliers (S0100), install retaining ring inside tangs of retaining ring guide.

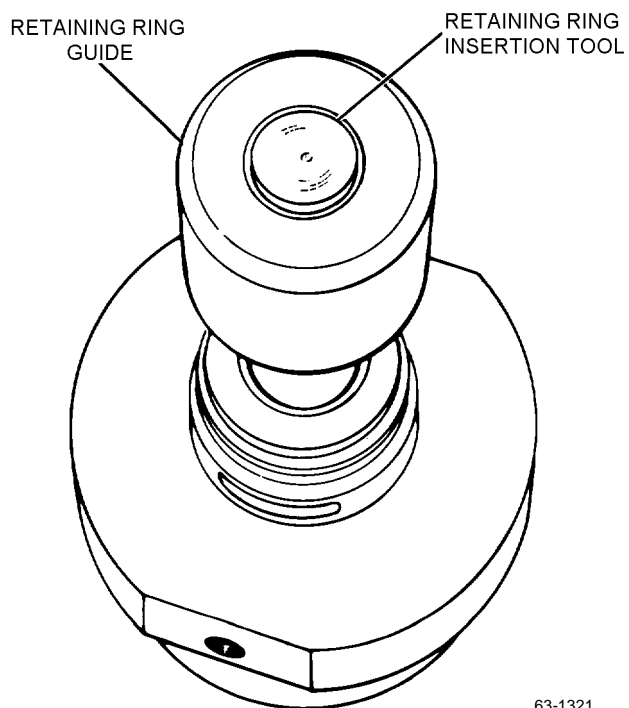


63-1183

Step 1v - Para 6-58

w. Insert retaining ring guide into tangs of retainer. Insert retaining ring insertion tool into retaining ring guide.

x. Compress poppet spring and seat retaining ring by pressing down on retaining ring insertion tool until flush with top of retaining ring guide.

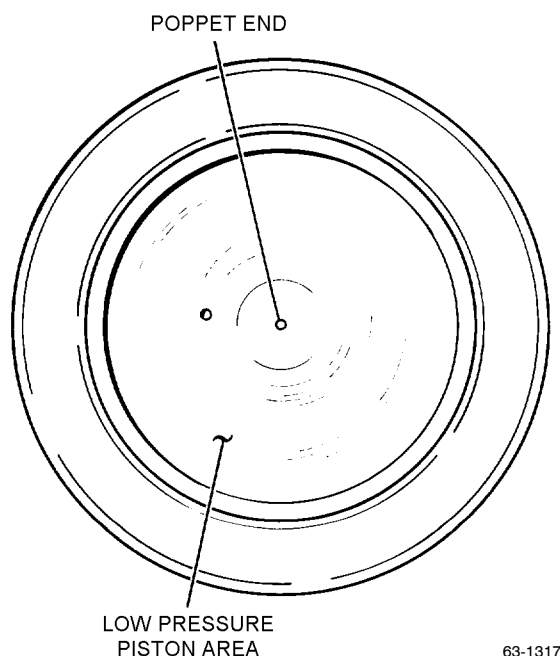


63-1321

Step 1x - Para 6-58

y. Remove retaining ring guide and insertion tool. Ensure retaining ring is properly seated in groove.

z. Verify that tip of poppet extends into lower pressure piston area.



Step 1z - Para 6-58

aa. Install backup ring on reducer housing.

ab. Lubricate new O-ring and mating surface with Krytox 240 AZ. Install O-ring on reducer housing.

2. Assemble low pressure assembly as follows:

a. Ensure that high pressure assembly is properly assembled in accordance with [step 1](#).

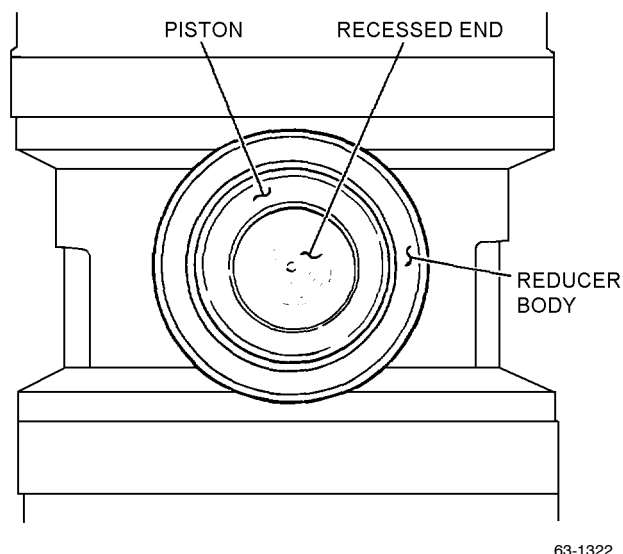
b. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

c. Position oxygen pressure reducer assembly with adjustment side or low pressure side up and secure.

d. Lubricate new O-ring and mating surfaces with Krytox 240 AZ. Install O-ring on piston.

e. Lubricate bore of reducer body with Krytox 240 AZ.

f. Install piston, recessed end out, in bore of reducer body.



Step 2f - Para 6-58

g. Install retaining ring, using retaining ring pliers (SL0100).

3. Assemble and preadjust adjustment assembly as follows:

a. Ensure that high pressure and low pressure assemblies have been properly assembled in accordance with [steps 1 and 2](#).

b. Ensure that all oxygen components to be assembled have been properly cleaned in accordance with NAVAIR 13-1-6.4-1.

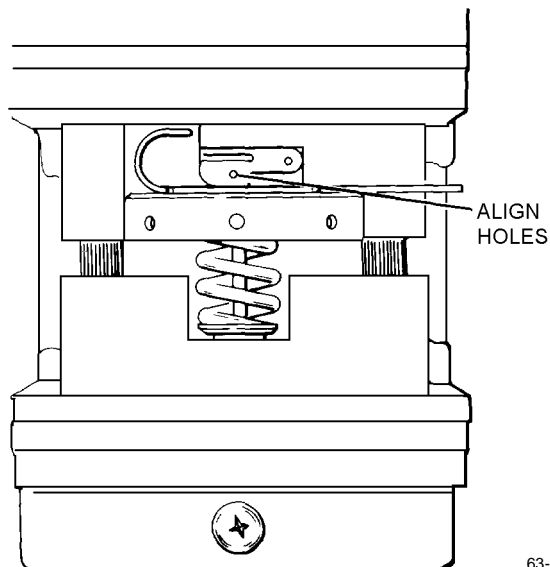
c. Using 5/32-inch hex key, screw jaw guides into two threaded holes in toggle jaw.

d. Place toggle and plunger jaws in vise.

e. Assemble adjustment assembly components in proper sequence ([figure 6-10](#)). Position components in toggle and plunger jaws.

NAVAIR 13-1-6.3-2

f. Apply vise pressure to compress spring. Align hole in toggle with hole in plunger end.



63-1323

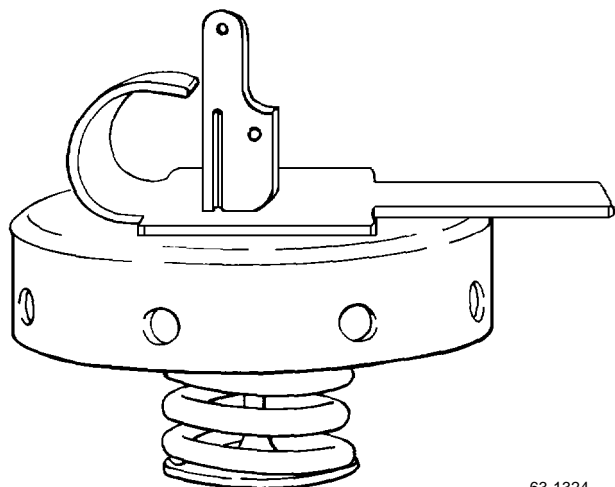
Step 3f - Para 6-58

g. With hole in toggle and hole in plunger aligned, insert new spring pin using spring pin installation tool. Insert spring pin into toggle hole as far as tool will permit. Remove tool and gently drive remainder of spring pin into toggle using drift pin.

h. Slowly open vise jaws and ensure that assembly is properly secured.

i. Remove adjustment assembly from toggle and plunger jaws.

j. Using toggle reset tool, rotate toggle to up-right (OFF) position.



63-1324

Step 3j - Para 6-58

k. Position reducer assembly with cap adjustment side up.

l. Install lock ring onto reducer body.

NOTE

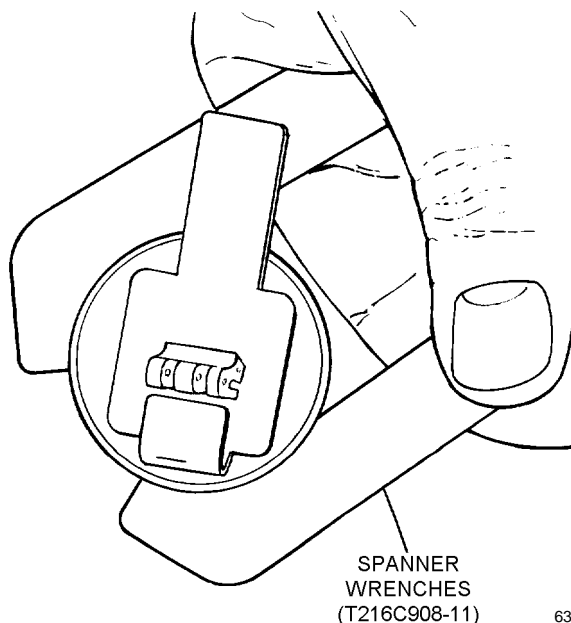
Ensure lock ring does not contact adjustment assembly during installation.

m. Install adjustment assembly onto reducer body by engaging screw threads and rotating clockwise to its lowest position.

n. Back off adjusting cap two complete turns for preadjustment.

o. Turn lock ring counterclockwise until snug with adjusting cap.

p. Place one spanner wrench (T216C908-11) in lock ring and second spanner wrench on adjusting cap and secure.



63-1304

Step 3p - Para 6-58

4. Apply antiseize tape to threads of elbow and install.

6-59. ADJUSTMENT.

6-60. ADJUSTMENT OF PRESSURE REDUCER ASSEMBLY. To adjust flow rates and outlet pressures on the reducer assembly, proceed as follows:

Support Equipment Required

Quantity	Description	Reference Number
2	Spanner Wrenches (Note 1) -or-	T216B907-11 (Note 3)
2	Spanner Wrenches (Note 2)	T216C908-11 (Note 3)

- Notes: 1. Used when pressure reducer is installed in survival kit.
 2. Used when pressure reducer is removed from survival kit.
 3. The spanner wrenches are part of Pressure Reducer Tool Set P/N T216D900-1 (CAGE 30941).

NOTE

Although the following instructions indicate adjustment of the pressure reducer installed on the seat pan assembly, procedures for a disconnected reducer are the same with the exception of removing the cover assembly, and the spanner wrenches used in the adjustment procedures. See Support Equipment Required for correct spanner wrenches.

1. Remove cover assembly (1, [figure 6-16](#)) by removing two screws (2).
2. Using spanner wrenches, loosen lock ring (5, [figure 6-20](#)).
3. Turn adjusting cap (4) counterclockwise to decrease pressure and clockwise to increase pressure.
4. Tighten pressure reducer lock ring (5).

5. Perform functional check on kit in accordance with [paragraph 6-37](#).

NOTE

If pressure reducer assembly meets required specifications proceed to [step 6](#); if required specifications cannot be met refer to troubleshooting table for suggested remedy.

6. Install cover assembly (1, [figure 6-16](#)) by installing two screws (2).

6-61. ADJUSTMENT OF RELIEF VALVE. To adjust the oxygen relief valve, proceed as follows:

1. Bleed pressure to zero and remove relief valve.
2. Using relief valve adjustment tool, ([paragraph 6-68](#)), adjust valve unseating pressure by turning cap clockwise to increase relief valve pressure and counterclockwise to decrease ([figure 6-12](#)).

NOTE

For an increase in pressure, turn adjusting cap clockwise in incremental adjustments of +1/2 or -1/4 turn using relief valve adjustment tool.

For a decrease in pressure, turn adjusting cap counterclockwise in incremental adjustments of +1/2 or -1/4 turn using relief valve adjustment tool.

3. Install oxygen relief valve.

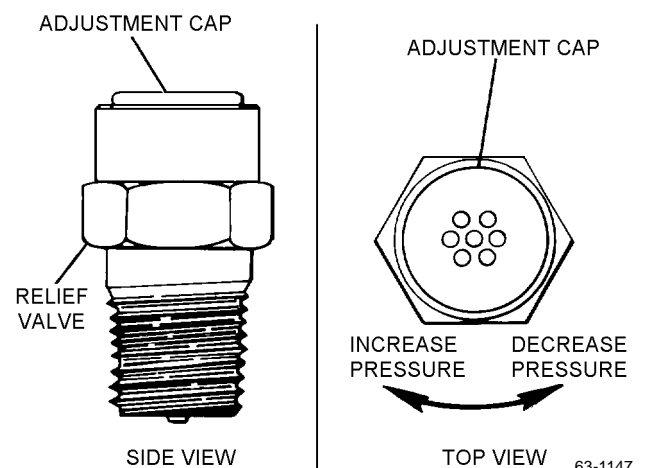


Figure 6-12. Adjustable Relief Valve (Typical)

NAVAIR 13-1-6.3-2

4. Perform functional check in accordance with paragraph 6-37.

6-62. ADJUSTMENT OF AUTOMATIC EMERGENCY OXYGEN RELEASE ASSEMBLY. To adjust the automatic release assembly, proceed as follows (figure 6-18):

NOTE

Ensure that the oxygen outlet port on manifold assembly is capped or hose assembly is installed.

1. Loosen adjustment locking nut (6).

2. Move cable conduit (7) towards or away from pressure reducer toggle by turning adjusting nut (6) on conduit. Ensure that there is sufficient slack in cable so that toggle in up position is not under tension.

3. Ensure that swaged ball on end of release lanyard cable is inserted in and is engaged with rotor (4) inside housing (9).

4. Tighten adjustment locking nut (6).

5. Operate release assembly by pulling lanyard cable (1). Ensure that cable pulls free of rotor (4) and actuator housing (9) and toggle arm is pulled into the actuated position.

Section 6-7. Fabrication

6-63. GENERAL.

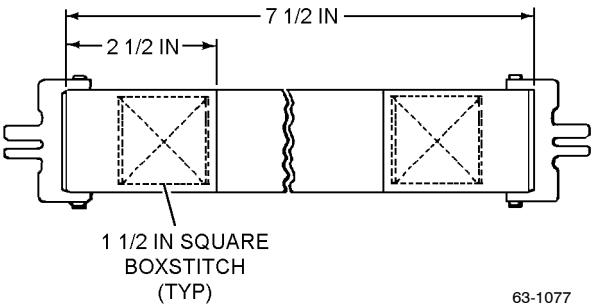
6-64. This section contains instructions for fabrication of tools and components that can be manufactured by local maintenance activities.

6-65. BRAKE RIDER’S STRAP. To fabricate a break rider’s strap, proceed as follows:

Materials Required

Quantity	Description	Reference Number
2	Release Assembly, Lapbelt Fitting	014-11366-1 (CAGE 99449)
24 Inches	Webbing, Nylon, Type XXVII, 1-23/32 inch Width	MIL-W-4088 NIIN 00-530-1489
As Rquired	Thread, Nylon, Type II, Class A, Size 6	V-T-295 NIIN 00-559-5211

1. Cut a piece of nylon webbing 24 inches in length.



Step 3 - Para 6-65

2. Sear exposed ends of webbing.

3. Secure fittings with 1 1/2 inch square boxstitch. All stitching shall be ASTM-D-6193, Type 301, 4 to 6 stitches per inch, backstitch 1/2 inch minimum.

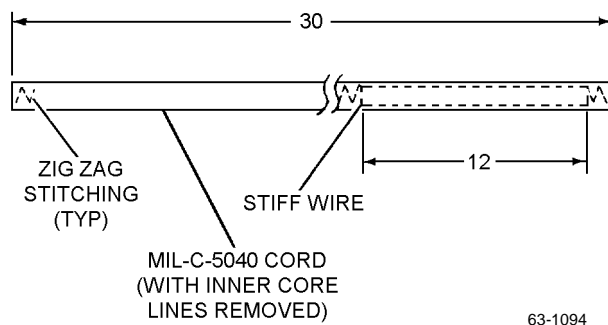
6-66. DROPLINE STOWAGE AID. To fabricate a dropline stowage aid, proceed as follows:

1. Cut a 45-inch length of MIL-C-5040, 550 pound, Type III cord.
2. Remove inner core lines.

NOTE

Beeswax may be used lightly as lubricant when inserting the stiff wire.

3. Insert a 12-inch length of stiff wire and stitch.



Step 3 - Para 6-66

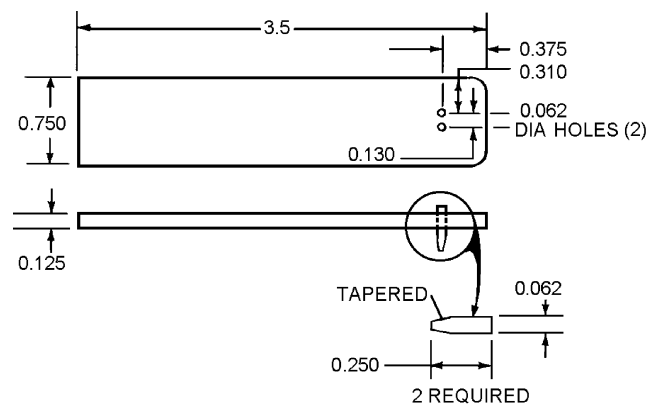
6-67. LIFERAFT PACKING AID. Fabricate a life-raft packing aid in accordance with [figure 6-13](#).

6-68. RELIEF VALVE ADJUSTMENT TOOL. To fabricate a relief valve adjustment tool proceed as follows:

Materials Required

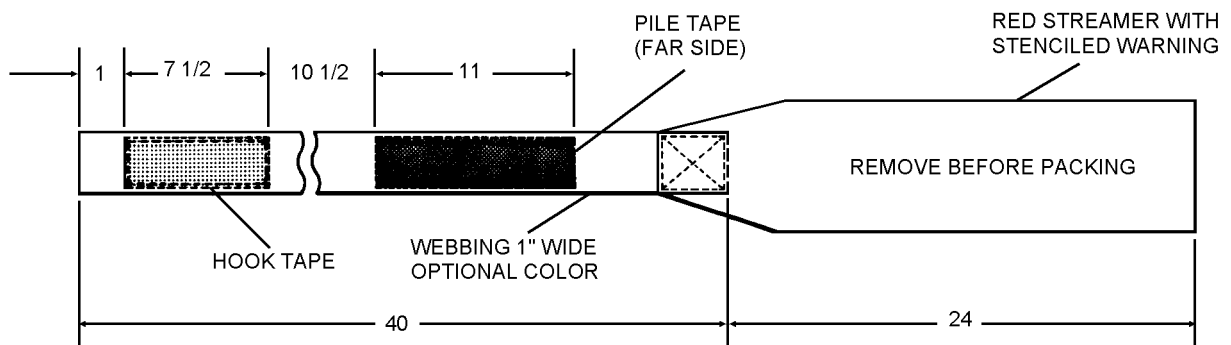
Quantity	Description	Reference Number
As Required	Mild Steel, 0.125 thick	—
As Required	Drill Rod, 0.062 dia.	—

1. Fabricate relief valve adjustment tool as shown:



Step 1 - Para 6-68

2. Press fit drill rod into holes in mild steel plate.



NOTES:

1. PILE TAPE AND HOOK TAPE ARE ON OPPOSITE SIDES OF WEBBING.
2. STREAMER WITH STENCILED WARNING MUST BE MADE WITH RED MATERIAL.

63-534

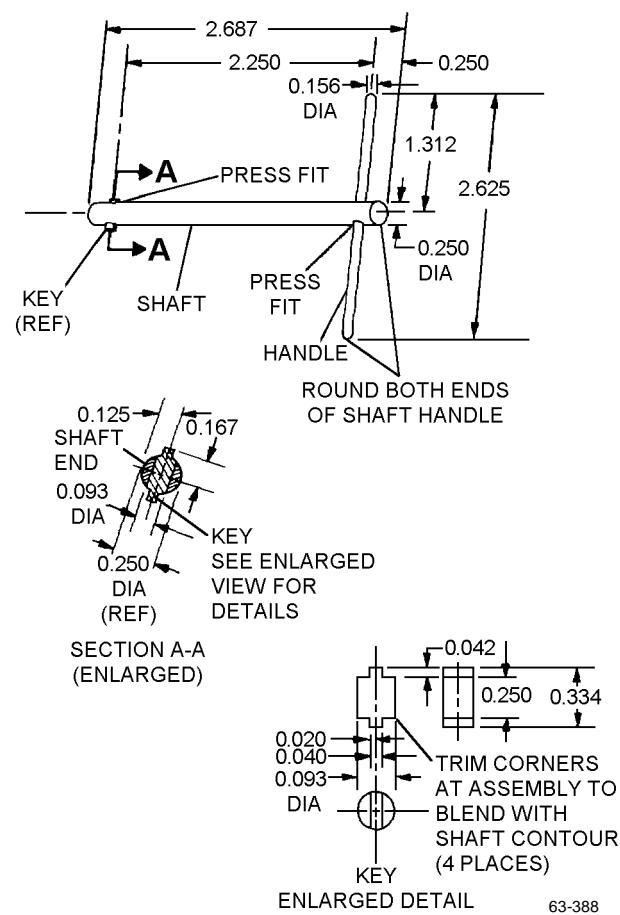
Figure 6-13. Liferaft Packing Aid

6-69. T-WRENCH. To fabricate T-wrench, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Steel Rod 0.250 dia.	—
As Required	Steel Rod 0.156 dia.	—
As Required	Steel Rod 0.093 dia.	—

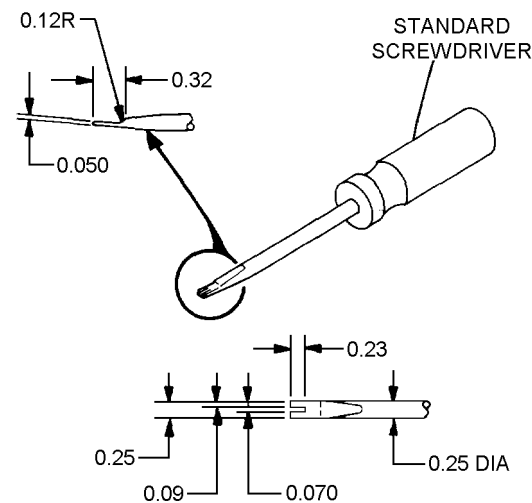
1. Fabricate T-wrench as shown:



Step 1 - Para 6-69

6-70. TOGGLE RESET TOOL. To fabricate a toggle reset tool, proceed as follows:

1. Modify a standard slot screwdriver as shown.



NOTE: ALL CORNER AND FILLET RADII 0.015 63-229

Step 1 - Para 6-70

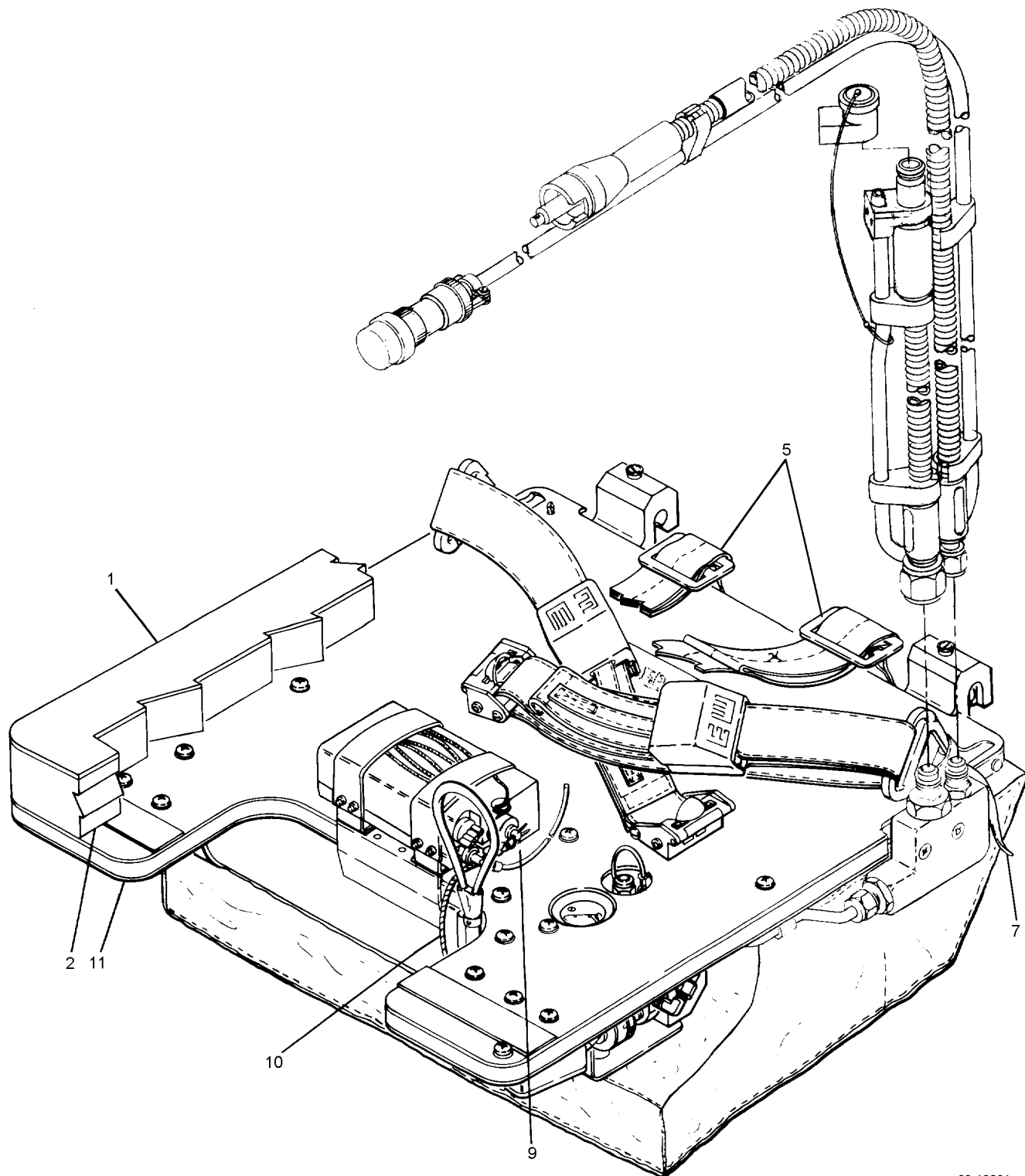
Section 6-8. Illustrated Parts Breakdown

6-71. GENERAL.

6-72. This section lists and illustrates the assemblies and detail parts of the SKU-6/A Seat Survival Kit Assembly as manufactured by East/West Industries. The entire assembly is supplied by Stencil

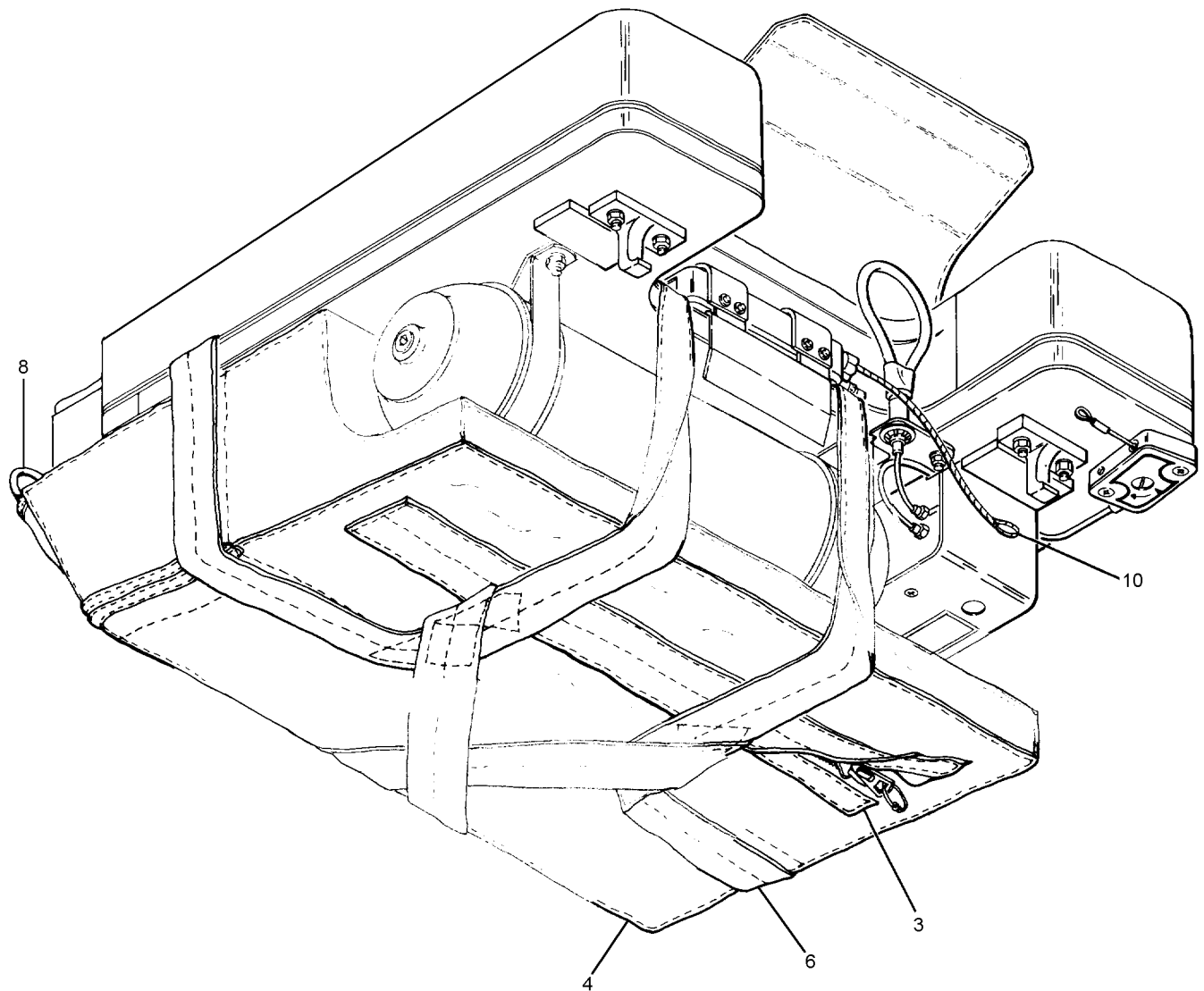
Aero Engineering Corporation (CAGE 24632) and carries P/N 14070-5.

6-73. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.



63-13261

Figure 6-14. Survival Kit Assembly (SKU-6/A) (Sheet 1 of 2)



63-13262

Figure 6-14. Survival Kit Assembly (SKU-6/A)(Sheet 2 of 2)

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
6-14	14070-7	SURVIVAL KIT ASSEMBLY SKU-6/A COMPLETE (After ACC 501)	1	
	GFE	. RADIO BEACON ASSEMBLY, AN/URT-33A	REF	
	GFE	. SURVIVAL KIT CONTENTS	REF	
	12089-1	. SURVIVAL KIT CONTENTS (24632)	REF	
	14070-21	. SURVIVAL KIT SUBASSEMBLY SKU-6/A (After ACC 501)	1	
	14075-5	. . CUSHION ASSEMBLY, Bottom	1	
	-1 14075-7	. . . COVER ASSEMBLY	1	
	-2 14078-5	. . . PAD ASSEMBLY	1	
	14071-3	. . RUCKSACK ASSEMBLY	1	
	-3 14071-11	. . . ZIPPER COVER ASSEMBLY	1	
	-4 14071-13	. . . STOWAGE BAG ASSEMBLY	1	
	-5 12086-1	. . BUCKLE STRAP ASSEMBLY	2	
	-6 12087-3	. . STRAP ASSEMBLY	1	
	-7 12277-1	. . LANYARD ASSEMBLY	1	
	-8 12317-3	. . HANDLE ASSEMBLY	1	
	-9 125B300-1	. . ACTUATOR, Radio beacon (30941)	1	
	-10 12227-1	. . LANYARD ASSEMBLY, Actuating AN/URT-33A	1	
	-11 14070-23	. . SEAT PAN ASSEMBLY (See figure 6-15 for BKDN)	1	

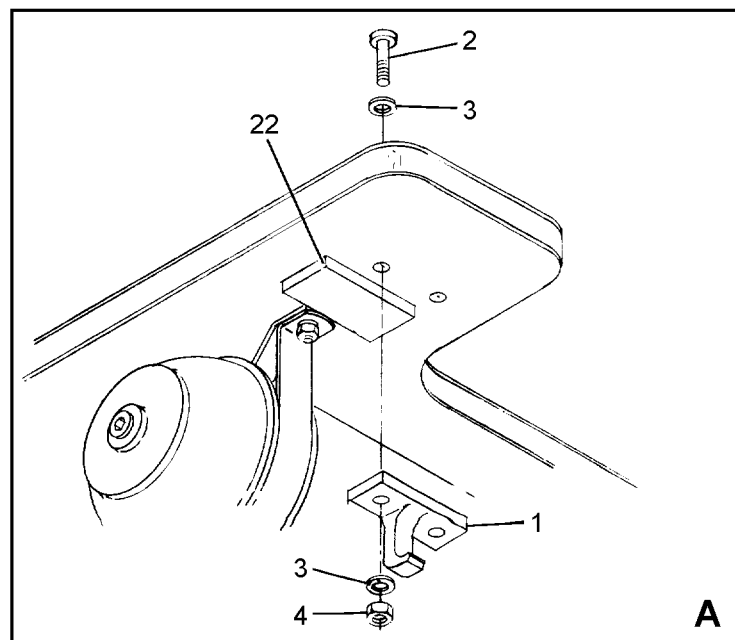
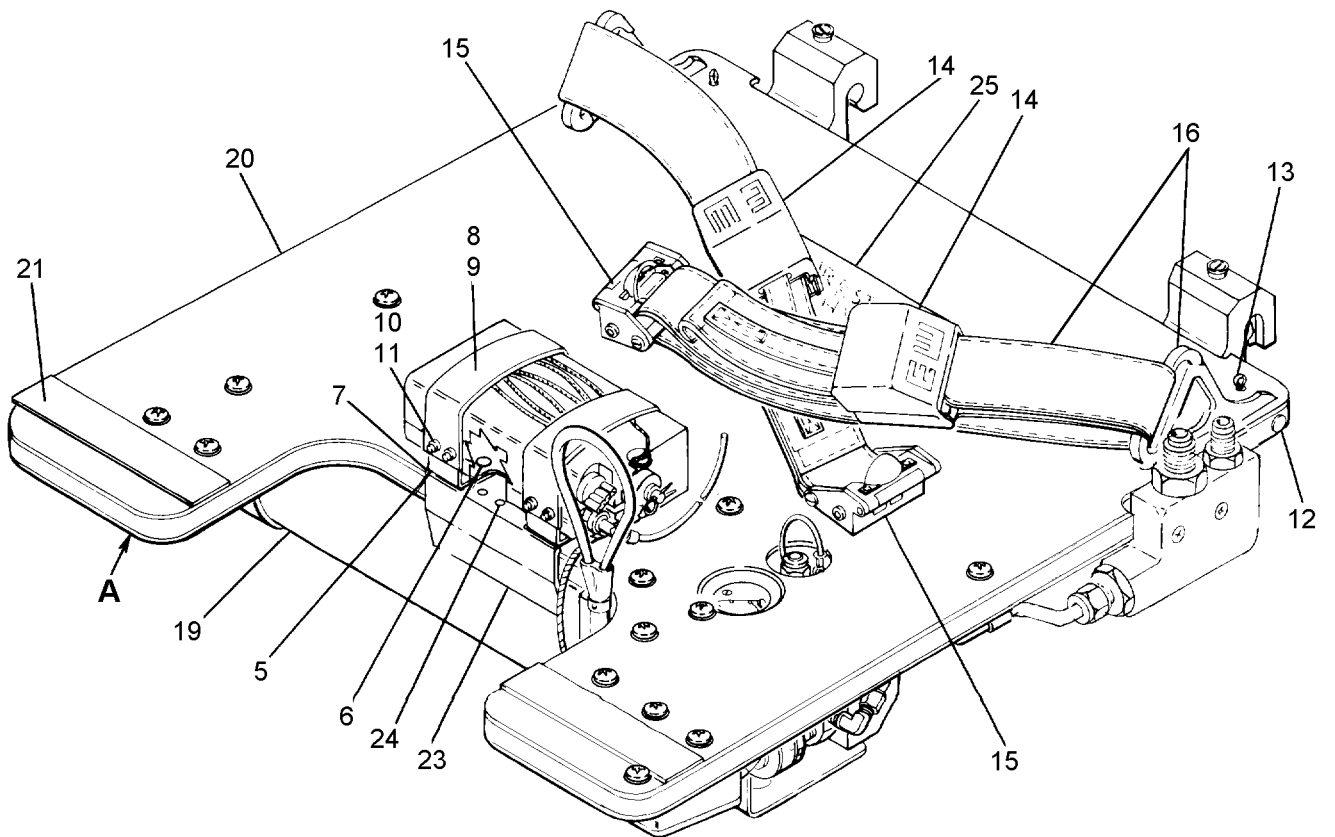


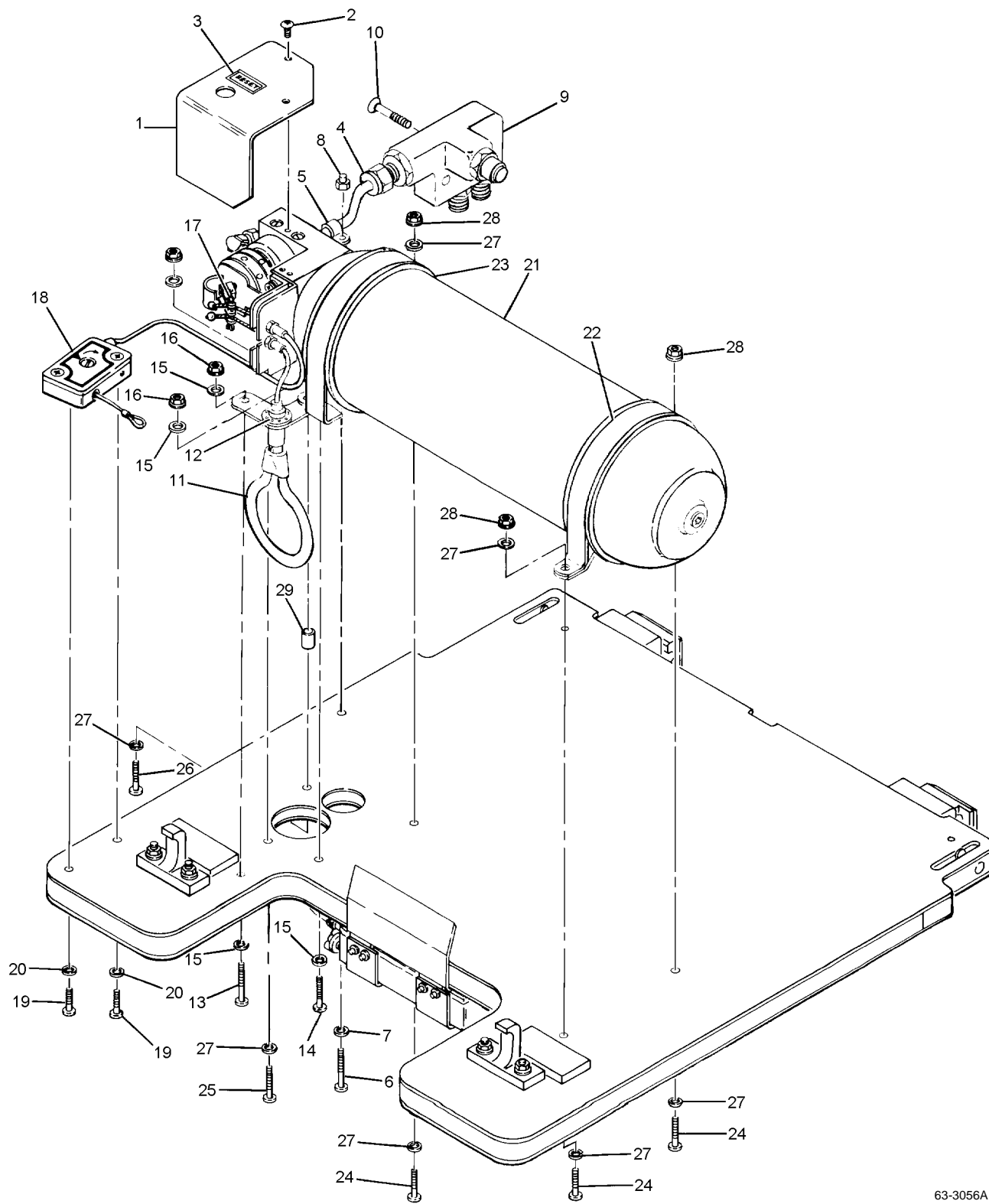
Figure 6-15. Seat Pan Assembly

63-1327

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
6-15	14070-11	SEAT PAN ASSEMBLY (See figure 6-14 for NHA)	REF	
-1	12079-11	. HOOK, Locking (ATTACHING PARTS)	2	
-2	MS27039C1-20	. SCREW	4	
-3	AN960PD10L	. WASHER	8	
-4	MS21042L3	. NUT	4	
		---*---		
-5	12085-3	. BRACKET ASSEMBLY, Beacon (ATTACHING PARTS)	1	
-6	NAS1739B4-2	. RIVET, Blind	4	
		---*---		
-7	12085-11	. . BRACKET	1	
-8	12085-15	. . FASTENER TAPE, Hook	2	
-9	12085-13	. . FASTENER TAPE, Pile (ATTACHING PARTS)	2	
-10	MS20426AD3	. . RIVET	8	
-11	AN960PD3	. . WASHER	8	
		---*---		
	12072-1	. BELT ASSEMBLY, Lap	2	
	266D520-1	. BELT ASSEMBLY, Lap (ATTACHING PARTS)	2	
-12	MS20392-4C25	. PIN, Straight	2	
-13	MS24665-285	. PIN, Cotter	2	
		---*---		
-14	184C100-1	. . ADJUSTER, Harness (30941)	2	
-15	015-11365-1	. . RELEASE ASSEMBLY, Lapbelt (99449) (Note 1)	2	
-16	12072-3	. . BELT SUB-ASSEMBLY, Lap (Webbing and Lug)	1	
	266D525-1	. . BELT SUB-ASSEMBLY, Lap (Webbing and Lug)	1	
-17	Deleted			
-18	Deleted			
-19	295J100-1	. OXYGEN SYSTEM, Emergency (30941) (See figure 6-16 for BKDN)	1	
	14080-1	. OXYGEN SYSTEM, Emergency (24632)	1	
-20	12084-25	. PANEL, Seat	1	
-21	266B622-13	. . FASTENER TAPE, Hook (1-inch x 4-inch) MIL-F-21840, Type II, Class I, self-adhesive backing	2	
-22	266B617-13	. . PAD (2-inch x 1-inch x 0.312-inch) Synthetic rubber, MIL-R-6855, Class II, Type A, Grade 40 (Color-black) (Note 2)	2	
-23	12384-11	. ANTICHAFING BRACKET (ATTACHING PARTS)	1	
-24	NAS1739B4-2	. RIVET, Blind	2	
		---*---		

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
6-15-25	295C813-11	. NAMEPLATE, Identification	1	
	Notes: 1. When replacing lapbelt assembly, apply sealing, locking and retaining compound, MIL-S-22473, to shoulder screws. 2. Install using 3M adhesive 1357.			



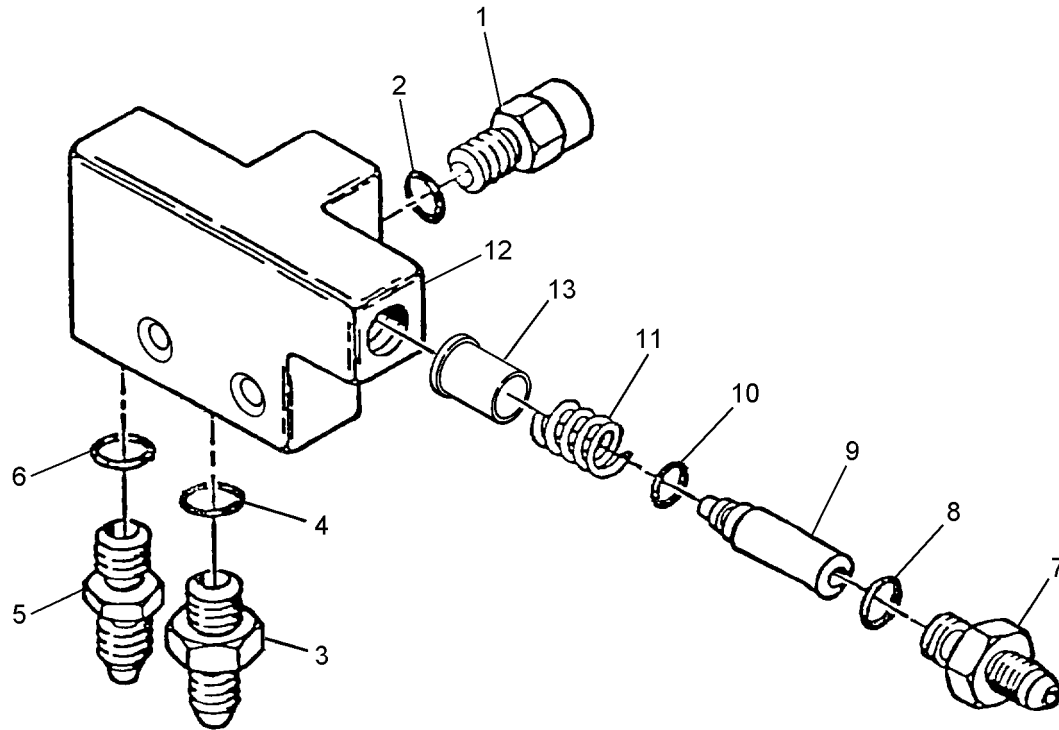
63-3056A

Figure 6-16. Oxygen System, Emergency

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
6-16	295J100-1	OXYGEN SYSTEM, Emergency (30941) (See figure 6-15 for NHA)	REF	
-1	266C850-1	. COVER ASSEMBLY (ATTACHING PARTS)	1	
-2	MS51957-26	. SCREW ---*---	2	
-3	EW91019	. DECAL	1	
-4	295D355-1	. TUBE ASSEMBLY (ATTACHING PARTS)	1	
-5	MS25281F4	. CLAMP	1	
-6	MS27039C1-18	. SCREW	1	
-7	AN960C10L	. WASHER	1	
-8	EW42001	. NUT ---*---	1	
-9	295D317-5	. MANIFOLD ASSEMBLY, Outlet (See figure 6-17 for BKDN) (ATTACHING PARTS)	1	
-10	MS24693-C276	. SCREW (Note 1) ---*---	2	
-11	266D336-1	. MANUAL OXYGEN RELEASE ASSEMBLY	1	
-12	5115-37H	. . LOCKWASHER, Push-on	1	
	EW48003	. . LOCKWASHER, Push-on (30941) (ATTACHING PARTS)	1	
-13	MS27039C1-17	. SCREW	1	
-14	MS27039C1-18	. SCREW	1	
-15	AN960C10L	. WASHER	4	
-16	MS21042L3	. NUT	2	
-17	MS24665-88	. PIN, Cotter ---*---	1	
-18	266C392-1	. AUTOMATIC OXYGEN RELEASE ASSEMBLY (See figure 6-18 for BKDN) (ATTACHING PARTS)	1	
-19	MS27039C1-17	. SCREW (Note 1)	2	
-20	AN960C10L	. WASHER ---*---	2	
-21	295D410-1	. REDUCER/MANIFOLD/CYLINDER ASSEMBLY (See figure 6-19 for BKDN) (ATTACHING PARTS)	1	
-22	295D840-1	. CLAMP ASSEMBLY	1	
-23	295C841-1	. CLAMP ASSEMBLY	1	
-24	MS27039C1-18	. SCREW (Note 1)	3	
-25	MS27039C1-17	. SCREW	1	
-26	MS27039C1-24	. SCREW (Note 1)	1	
-27	AN960C10L	. WASHER	8	
-28	MS21042L3	. NUT ---*---	4	

NAVAIR 13-1-6.3-2

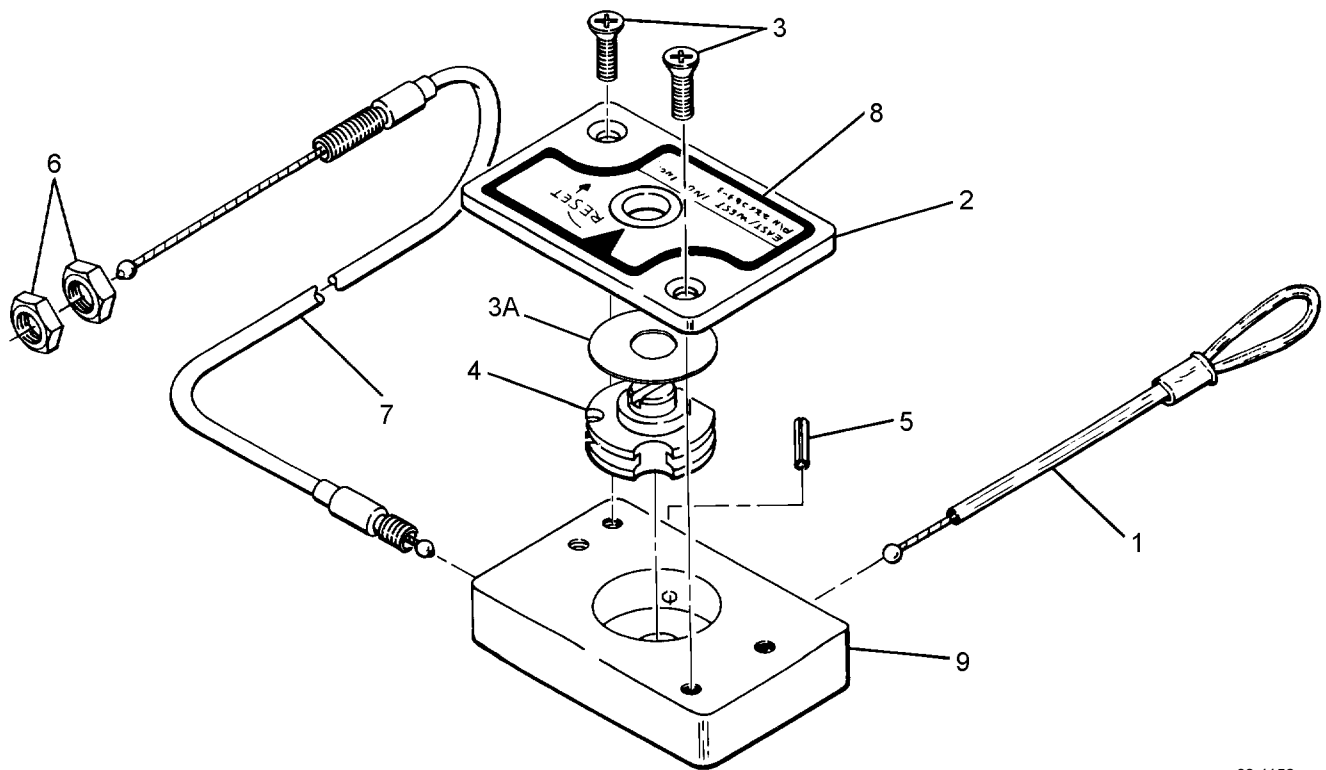
Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
6-16-29	266C450-11	. SPACER	1	
	Notes: 1. Apply sealing, locking and retaining compound, VC-3, to threads.			



63-1329

Figure 6-17. Manifold Assembly, Outlet

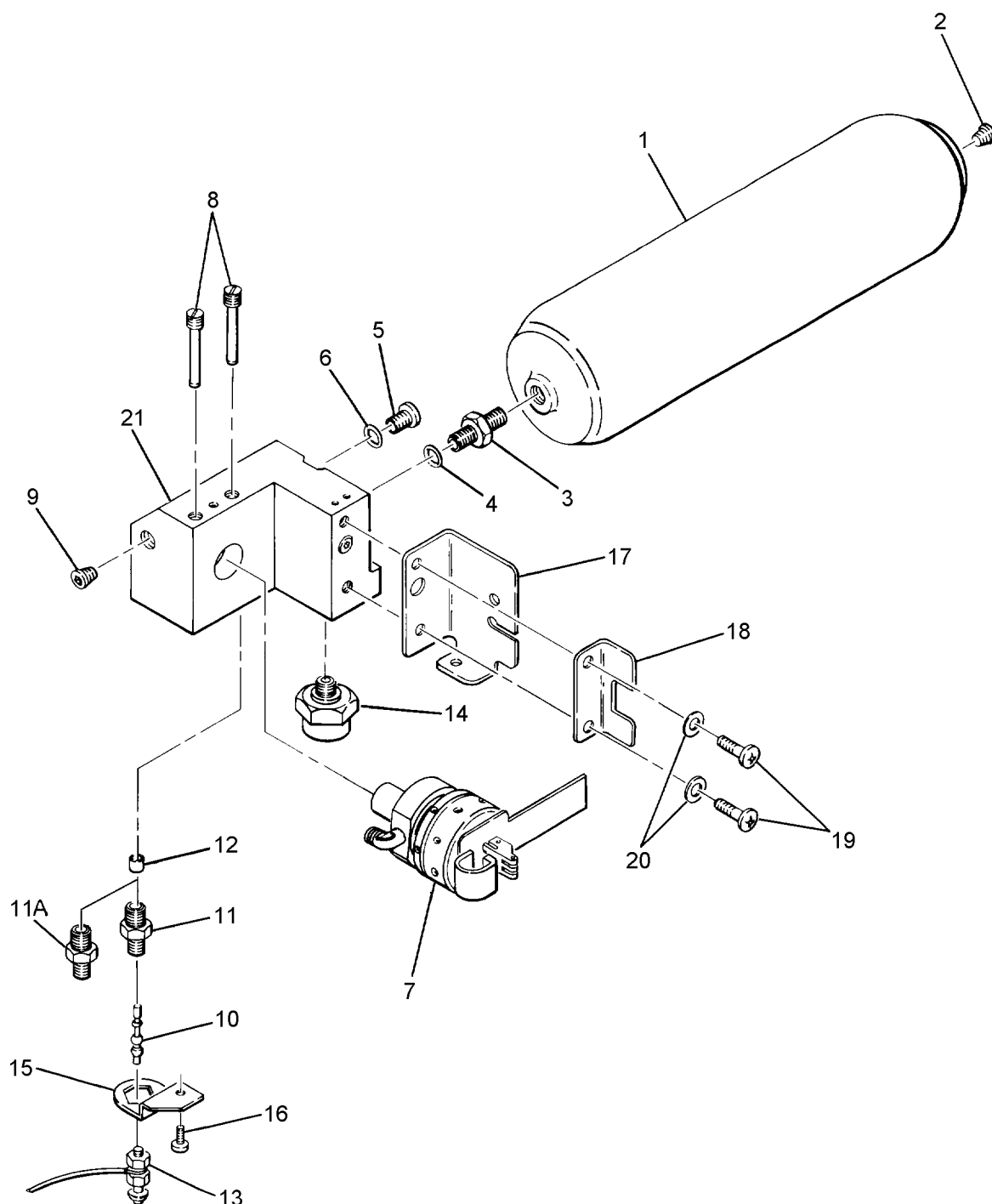
Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
6-17	295D317-5	MANIFOLD ASSEMBLY, Outlet (See figure 6-16 for NHA)	REF	
-1	EW63004	. RELIEF VALVE (30941)	1	
	P103-673	. RELIEF VALVE (91816)	1	
	Z02RV04-4	. RELIEF VALVE (91816) (Note 2)	1	
-2	MS9068-012	. O-RING (Note 1)	1	
-3	AN919-7D	. CONNECTOR	1	
-4	MS9068-013	. O-RING (Note 1)	1	
-5	295B335-11	. CONNECTOR	1	
-6	MS9068-013	. O-RING (Note 1)	1	
-7	295B334-11	. CONNECTOR	1	
-8	MS9068-012	. O-RING (Note 1)	1	
-9	295B331-11	. SPINDLE	1	
-10	MS9068-010	. O-RING (Note 1)	1	
-11	295B333-11	. SPRING	1	
-12	295C219-11	. MANIFOLD BODY	1	
-13	295B320-11	. SPRING RETAINER	1	
Notes:		1. Apply light film of Krytox 240 AZ lubricant, MIL-G-27617, prior to assembly. 2. Torque to a value of 70 ± 5 in-lb.		



63-1152

Figure 6-18. Automatic Oxygen Release Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
6-18	266C392-1	AUTOMATIC OXYGEN RELEASE ASSEMBLY (See figure 6-16 for NHA)	REF	
-1	266C398-1	. CABLE ASSEMBLY	1	
-2	266C396-11	. COVER (ATTACHING PARTS)	1	
-3	MS24693-C48	. SCREW (Note 1) ---*---	2	
-3A	10W063-52C100	. WASHER, Flat	1	
-4	266C394-11	. ROTOR	1	
-5	MS171495	. SPRING PIN	1	
-6	221B363-11	. NUT	2	
-7	266D397-1	. CONDUIT ASSEMBLY	1	
-8	EW91021	. DECAL	1	
-9	266C393-11	. HOUSING	1	
Notes: 1. Apply thread locking compound, VC3, to threads.				

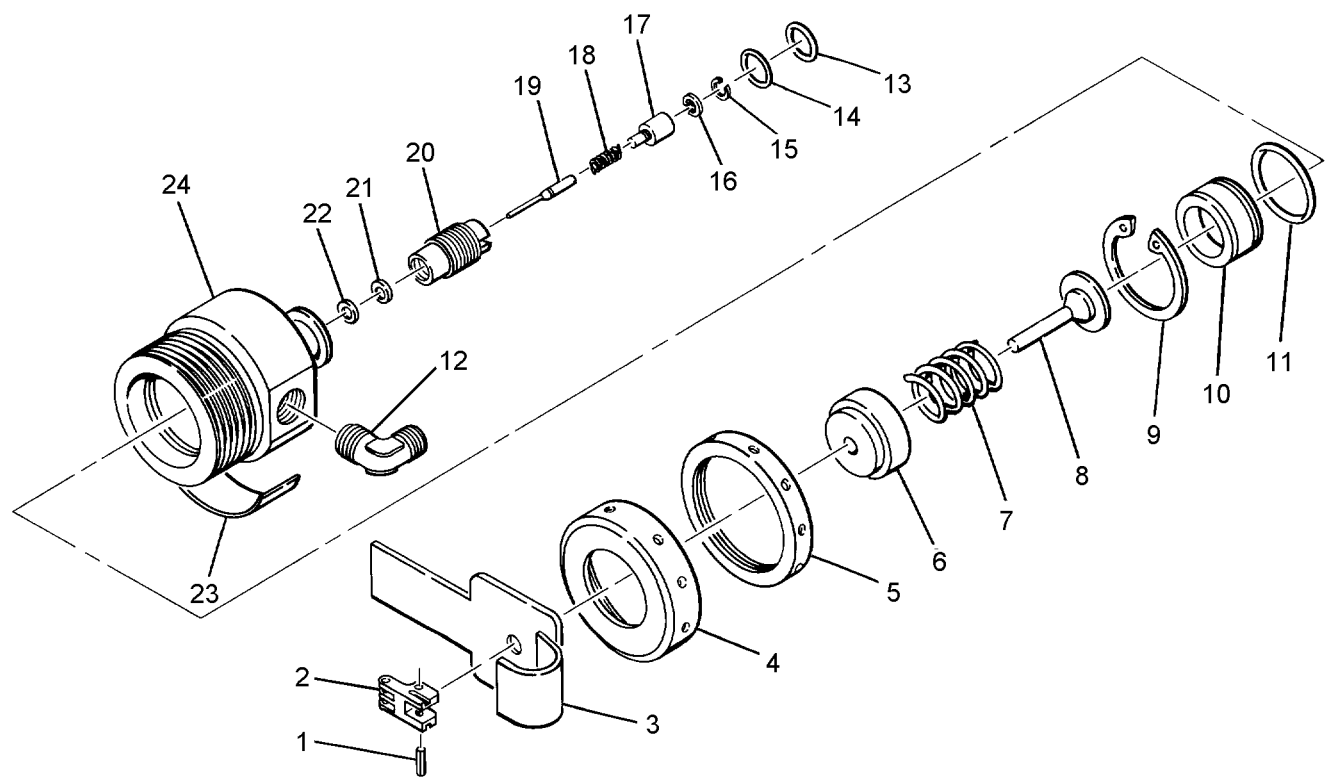


63-1330

Figure 6-19. Reducer, Manifold, Cylinder Assembly

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
6-19	295D410-1	REDUCER/MANIFOLD/ CYLINDER	REF	
		ASSEMBLY (See figure 6-16 for NHA)		
-1	235D500-1	. OXYGEN CYLINDER ASSEMBLY	1	
-2	AN932S2	. PLUG (Note 1)	1	
-3	266B830-11	. NIPPLE UNION (Note 1)	1	
-4	MS9068-011	. O-RING (Note 2)	1	
-5	EW61001	. PLUG	1	
-6	MS28778-03	. O-RING (Note 2)	1	
-7	266D810-1	. PRESSURE REDUCER ASSEMBLY	1	
		(See figure 6-20 for BKDN)		
		(ATTACHING PARTS)		
-8	266C702-11	. PIN (Note 3)	2	
		---*---		
	266D440-1	. REDUCER MANIFOLD ASSEMBLY	1	
-9	AN932D1	. . PLUG (Note 1)	2	
	221B380-1	. . FILLER VALVE ASSEMBLY	1	
-10	EW63001	. . . VALVE CORE (Note 4)	1	
-11	102C383-11	. . . VALVE BODY (Note 1)	1	
-11A	9120097-27	. . FILL VALVE (Note 5)	1	
-12	266B419-11	. . FILTER	1	
-13	266B283-1	. . FILLER CAP ASSEMBLY	1	
-14	EW68001	. . GAGE, Oxygen (Note 1)	1	
-15	266C870-11	. . BRACKET, Retaining	1	
		(ATTACHING PARTS)		
-16	MS51957-26	. . SCREW (Note 3)	1	
		---*---		
-17	266C457-11	. . BRACKET	1	
-18	266B824-11	. . BRACKET	1	
		(ATTACHING PARTS FOR INDEX NOS. 17 AND 18)		
-19	MS51958-63	. . SCREW (Note 3)	2	
-20	AN960C10L	. . WASHER	2	
		---*---		
-21	266D441-11	. . MANIFOLD	1	
Notes:		1. To assemble pipe threaded parts, use Teflon tape 1/2 in. wide conforming to MIL-T-27730; coating to be applied according to instructions specified in MIL-T-27730. 2. Apply light film of Krytox 240 AZ lubricant, MIL-G-27617, prior to assembly. 3. Apply thread locking compound VC-3 or equivalent to threads. 4. Torque valve core to 5-6 lb-in after assembly. 5. Fill Valve can be used as an alternate to replace Filler Valve Assembly P/N 221B380-1 or Valve Core P/N EW63001 and Valve Body P/N 102C383-11.		



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Figure 6-20. Pressure Reducer Assembly

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
6-20	266D810-1	PRESSURE REDUCER ASSEMBLY (See figure 6-19 for NHA)	REF	
-1	MS171435	. PIN, Spring	1	
-2	102C303-21	. TOGGLE	1	
-3	266C823-11	. SPACER	1	
-4	233C829-11	. CAP, Adjust	1	
-5	233C830-11	. RING, Lock	1	
-6	266C820-11	. GUIDE, Piston	1	
-7	233B831-11	. SPRING, Reference	1	
-8	102C824-11	. PLUNGER	1	
-9	N5000-102H	. RING, Retaining	1	
	MS16625-4102P	. RING, Retaining (Alternate for N5000-102H)	1	
-10	102C821-11	. PISTON	1	
-11	MS28775-117	. O-RING (Note 1)	1	
-12	MS20822-4D	. ELBOW (Note 2)	1	
-13	NAS1611-014	. O-RING (Note 1)	1	
-14	MS28774-014	. BACK UP RING	1	
-15	MS16625-4025	. RING, Retaining	1	
-16	102B819-11	. FILTER (Note 3)	1	
-17	102B818-11	. GUIDE POPPET	1	
-18	102B814-11	. SPRING POPPET	1	
-19	102B817-11	. POPPET	1	
-20	102C815-11	. RETAINER (Note 4)	1	
-21	102B828-11	. STOP	1	
-22	102B816-11	. SEAT	1	
-23	233B826-15	. NAMEPLATE	1	
-24	233D811-13	. BODY	1	
	Notes: 1. Apply light film of Krytox 240 AZ lubricant, MIL-G-27617, prior to assembly. 2. To assemble pipe threaded parts, use Teflon tape 1/2 in. wide conforming to MIL-T-27730; coating to be applied according to instructions specified in MIL-T-27730. 3. Install coarse mesh near side. 4. Torque retainer to 32 to 35 in-lb after assembly.			

NUMERICAL INDEX

Part Number	Figure and Index Number	SM&R Code
AN919-7D	6-17-3	
AN932D1	6-19-9	
AN932S2	6-19-2	
AN960C10L	6-16-7	
	6-16-15	
	6-16-20	
	6-16-27	
	6-19-20	
AN960PD10L	6-15-3	
AN960PD3	6-15-11	
EW42001	6-16-8	
EW48003	6-16-12	
EW61001	6-19-5	
EW63001	6-19-10	
EW63004	6-17-01	
EW68001	6-19-14	
EW91019	6-16-3	
EW91021	6-18-8	
MS16625-4025	6-20-15	
MS16625-4102P	6-20-9	
MS171435	6-20-1	
MS171495	6-18-5	
MS20392-4C25	6-15-12	
MS20426AD3	6-15-10	
MS20822-4D	6-20-12	
MS21042L3	6-15-4	
	6-16-16	
	6-16-28	
MS24665-285	6-15-13	
MS24665-88	6-16-17	
MS24693-C276	6-16-10	
MS24693-C48	6-18-3	
MS25281F4	6-16-5	
MS27039C1-17	6-16-13	
	6-16-19	
	6-16-25	
MS27039C1-18	6-16-6	
	6-16-14	
	6-16-24	
MS27039C1-20	6-15-2	
MS27039C1-24	6-16-26	
MS28774-014	6-20-14	
MS28775-117	6-20-11	
MS28778-03	6-19-6	
MS51957-26	6-16-2	
	6-19-16	

Part Number	Figure and Index Number	SM&R Code
MS51958-63	6-19-19	
MS9068-010	6-17-10	
MS9068-011	6-19-4	
MS9068-012	6-17-2	
	6-17-8	
MS9068-013	6-17-4	
	6-17-6	
NAS1611-014	6-20-13	
NAS1739B4-2	6-15-6	
	6-15-24	
N5000-102H	6-20-9	
P103-673	6-17-1	
Z02RV04-4	6-17-1	
015-11365-1	6-15-15	
10W063-52C100	6-18-3A	
102B814-11	6-20-18	
102B816-11	6-20-22	
102B817-11	6-20-19	
102B818-11	6-20-17	
102B819-11	6-20-16	
102B828-11	6-20-21	
102C303-21	6-20-2	
102C383-11	6-19-11	
102C815-11	6-20-20	
102C821-11	6-20-10	
102C824-11	6-20-8	
12072-1	6-15	
12072-3	6-15-16	
12079-11	6-15-1	
12084-25	6-15-20	PBGGG
12085-11	6-15-7	AGOOG
12085-13	6-15-9	
12085-15	6-15-8	
12085-3	6-15-5	AGGGG
12086-1	6-14-5	
12087-3	6-14-6	
12089-1	6-14	
12227-1	6-14-10	
12277-1	6-14-7	
12317-3	6-14-8	
12384-11	6-15-23	
125B300-1	6-14-9	PAGZZ
14070-11	6-15	
14070-21	6-14	PAGGG
14070-23	6-14-11	
14070-7	6-14	AGOGG

NUMERICAL INDEX (CONT)

Part Number	Figure and Index Number	SM&R Code	Part Number	Figure and Index Number	SM&R Code
14071-11	6-14-3	PAOOO	266C820-11	6-20-6	PAGGG
14071-13	6-14-4		266C823-11	6-20-3	
14071-3	6-14		266C850-1	6-16-1	
14075-5	6-14		266C870-11	6-19-15	
14075-7	6-14-1		266D336-1	6-16-11	
14078-5	6-14-2		266D397-1	6-18-7	
14080-1	6-15-19		266D440-1	6-19	
184C100-1	6-15-14		266D441-11	6-19-21	
221B363-11	6-18-6		266D520-1	6-15	
221B380-1	6-19		266D525-1	6-15-16	
233B826-15	6-20-23	PAGGG	266D810-1	6-19-7	
233B831-11	6-20-7			6-20	
233C829-11	6-20-4		295B320-11	6-17-13	
233C830-11	6-20-5		295B331-11	6-17-9	
233D811-13	6-20-24		295B333-11	6-17-11	
235D500-1	6-19-1		295B334-11	6-17-7	
266B283-1	6-19-13		295B335-11	6-17-5	
266B419-11	6-19-12		295C219-11	6-17-12	
266B617-13	6-15-22		295C813-11	6-15-25	
266B622-13	6-15-21		295C841-1	6-16-23	
266B824-11	6-19-18	PAGGG	295D317-5	6-16-9	AGOOG
266B830-11	6-19-3			6-17	
266C392-1	6-16-18		295D355-1	6-16-4	AGGGG
	6-18		295D410-1	6-16-21	
266C393-11	6-18-9			6-19	AGGGG
266C394-11	6-18-4		295D840-1	6-16-22	
266C396-11	6-18-2		295J100-1	6-15-19	PAGZZ
266C398-1	6-18-1			6-16	
266C450-11	6-16-29	AGGGG	5115-37H	6-16-12	
266C457-11	6-19-17		9120097-27	6-19-11A	
266C702-11	6-19-8				

CHAPTER 7

SKU-7/A SEAT SURVIVAL KIT

Section 7-1. Description

7-1. GENERAL.

7-2. The SKU-7/A Seat Survival Kit Assembly is designed for use with the SJU-17(V)3/A and SJU-17(V)4/A ejection seats installed in F-14D aircraft. The kit functions as a seat for the aircrewman as well as a platform for mounting emergency oxygen and other survival equipment ([figure 7-1](#)). The SKU-7/A Seat Survival Kit Assembly, P/N 361E150-1, is manufactured by East/West Industries (CAGE 30941) and supplied by Martin-Baker Ltd (CAGE U1604).

7-3. CONFIGURATION.

7-4. The assembly includes a molded fiberglass seat lid, an emergency oxygen system, an AN/URT-33A radio beacon, a rucksack assembly, and a seat cushion.

7-5. The seat lid assembly is the primary structure and serves as a seat for the aircrewman as well as a mounting platform for the rucksack assembly and the emergency oxygen system. Two lapbelts are attached to the lid assembly at the aft outboard edges and are fitted with release assemblies which are attached to the aircrewman's torso harness.

7-6. The AN/URT-33A radio beacon is mounted on the top side of the lid assembly beneath the left thigh pad of the seat cushion.

7-7. A flexible oxygen and communications hose assembly, which consists of two hose subassemblies, is installed on the aft left side of the lid assembly. The first subassembly provides connection for communication and oxygen services between the aircraft console, through the ejection seat survival kit, to a quick disconnect union at the end of the subassembly. The second subassembly provides the interconnection between the quick disconnect and the aircrewman's

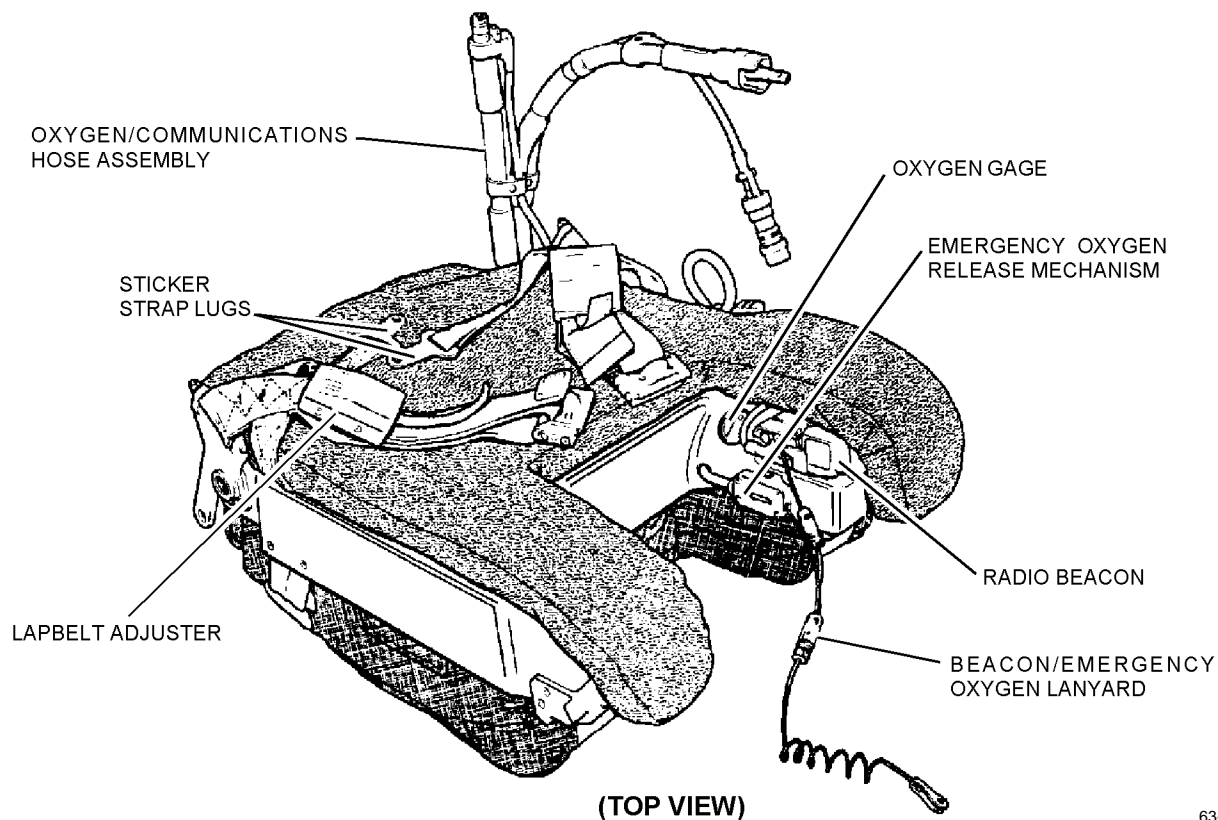
chest mounted breathing oxygen regulator. Anti-g and vent air are provided directly to the aircrewman from the aircraft console.

7-8. The emergency oxygen system is mounted on the underside of the seat lid assembly. The system consists of a 50 cubic inch, 1800-psi cylinder and gage; a pressure reducer assembly; and two actuation devices. The two actuation devices consist of a resettable manual actuation handle and a quick-disconnect lanyard for automatic actuation on ejection. The emergency oxygen system will deliver over 10 minutes of breathing oxygen to the aircrewmember.

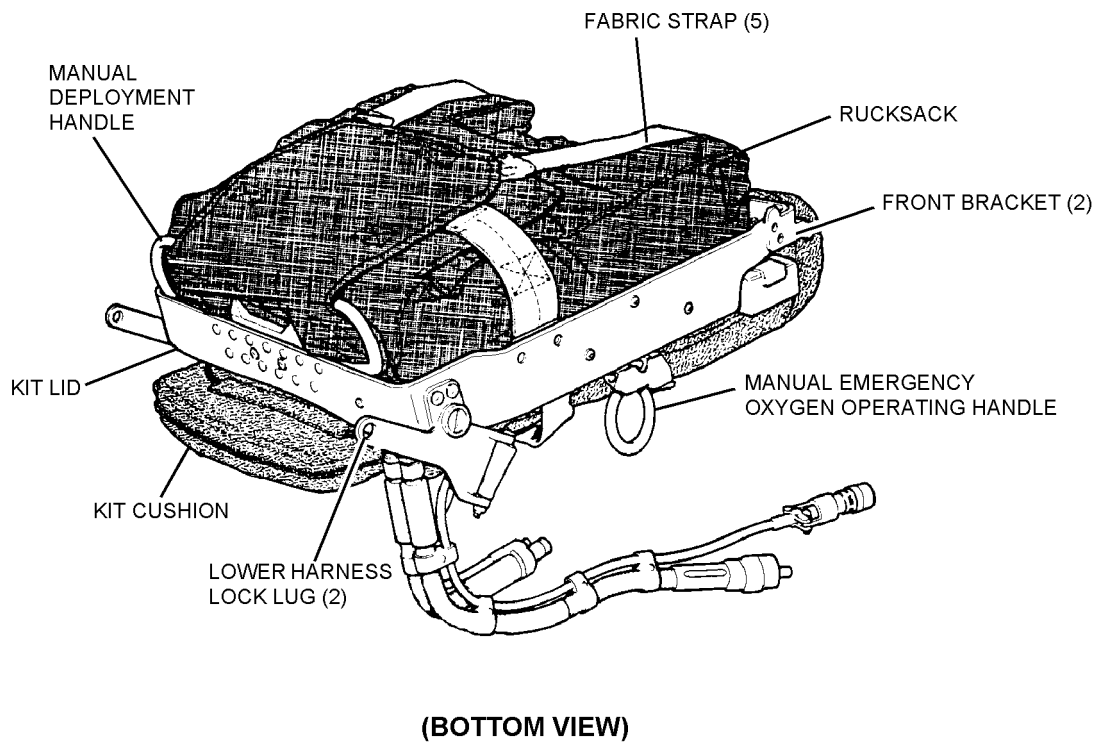
7-9. The fabric rucksack container is divided into two compartments. The larger compartment at the rear of the rucksack, houses the liferaft and is closed by four flaps. The front compartment contains basic survival items and is closed by a zipper. When installed, the rucksack is retained against the underside of the lid assembly by five strap assemblies. The five strap assemblies and the four rucksack assembly flaps are secured by the manual deployment handle assembly. The manual handle assembly consists of two release pins attached by cable to two yellow handles.

7-10. The seat cushion is positioned on top of the lid assembly secured by four snap fasteners; two forward on the bottom inboard side of the thigh pads and two aft near the corners. A fabric strip is sewn to the underside of the cushion to form retaining channels for the flexible radio beacon antenna.

7-11. The LRU-23/P liferaft is manufactured from single ply polyurethane coated nylon fabric. The canopy and floor are fully inflatable for extra exposure protection and a spray visor is installed for visibility. The dropline which connects the liferaft CO₂ inflation assembly to the lid assembly is stored in the base of the liferaft compartment.



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Figure 7-1. Seat Survival Kit, SKU-7/A - Assembly

7-12. REFERENCE NUMBERS, ITEMS, AND SUPPLY DATA.

7-13. Figures 7-16 through 7-20 of the Illustrated Parts Breakdown (IPB) contain data for each assembly, subassembly, and component part of the SKU-7/A Seat Survival Kit Assembly. Each figure contains a Group Assembly Parts List which provides reference or part number, description, and units per assembly for each part within the illustrated assembly or subassembly. The IPB also contains a numerical index of part numbers. This list provides an alpha-numerical listing of all indexed parts illustrated in the IPB with a reference to their figure location and SM&R coding.

7-14. APPLICATION.

7-15. The SKU-7/A Seat Survival Kit Assembly is designed for use in F-14D aircraft equipped with SJU-17(V)3/A and SJU-17(V)4/A ejection seats.

7-16. FUNCTION.

7-17. The survival kit provides support and comfort for the aircrewman, routing for oxygen and communications, and a platform base for mounting survival equipment and an emergency oxygen supply. Should the aircraft's oxygen system fail, or in the event of high altitude ejection, the emergency oxygen system will deliver breathing oxygen to the aircrewman.

7-18. IN-FLIGHT EMERGENCY. In the event of failure of the aircraft oxygen supply, the emergency oxygen system may be actuated by pulling the manual emergency oxygen actuation handle. If the aircraft oxygen supply is resumed, the emergency oxygen system may be reset by pushing the manual actuation handle back to its stowed position. The flow of emergency oxygen will be shut off and the system reset for normal use. An oxygen pressure gage mounted in the left thigh support shows oxygen pressure remaining.

7-19. EJECTION SEQUENCE. During the seat ejection sequence, emergency oxygen system is auto-

matically actuated by a lanyard attached to the cockpit floor. This initiates the same sequence of operation as the manual actuation handle.

7-20. As the ejection seat moves up the guide rails, the oxygen hose assembly is pulled free from the aircraft console. A shuttle valve at the survival kit input connect point prevents oxygen from escaping to the atmosphere (figure 7-2).

NOTE

If automatic actuation of the emergency oxygen system fails, the system may be actuated by operating the manual actuation handle (green) located outboard of the aircrewmember's left thigh.

7-21. After a delay, varying with altitude and speed, the aircrewman's parachute will deploy and he will separate from the seat. The survival kit will remain attached to the aircrewman's torso harness.

7-22. Survival kit deployment during parachute descent may be actuated by pulling one of the manual deployment handles (yellow) at the rear of the survival kit. The rucksack will fall away extracting the liferaft and dropline. When the liferaft reaches the end of free-fall, the snubbing action on the dropline pulls a lanyard attached to the raft's CO₂ inflation assembly and the liferaft is inflated. The rucksack containing the basic survival items, is suspended below the inflated liferaft. The survival kit lid remains attached to the aircrewman by the lapbelts, which are connected to the PCU-56 series torso harness.

7-23. After entering the water, the aircrewman connects the liferaft retaining lanyard to an appropriate D-ring on his life preserver. He then boards the liferaft and retrieves the rucksack.

7-24. If the survival kit is not deployed until after water entry, operation of one of the manual deployment handles will release the survival package from the kit lid. The liferaft may then be manually inflated by pulling the liferaft manual inflation handle (attached to the dropline).

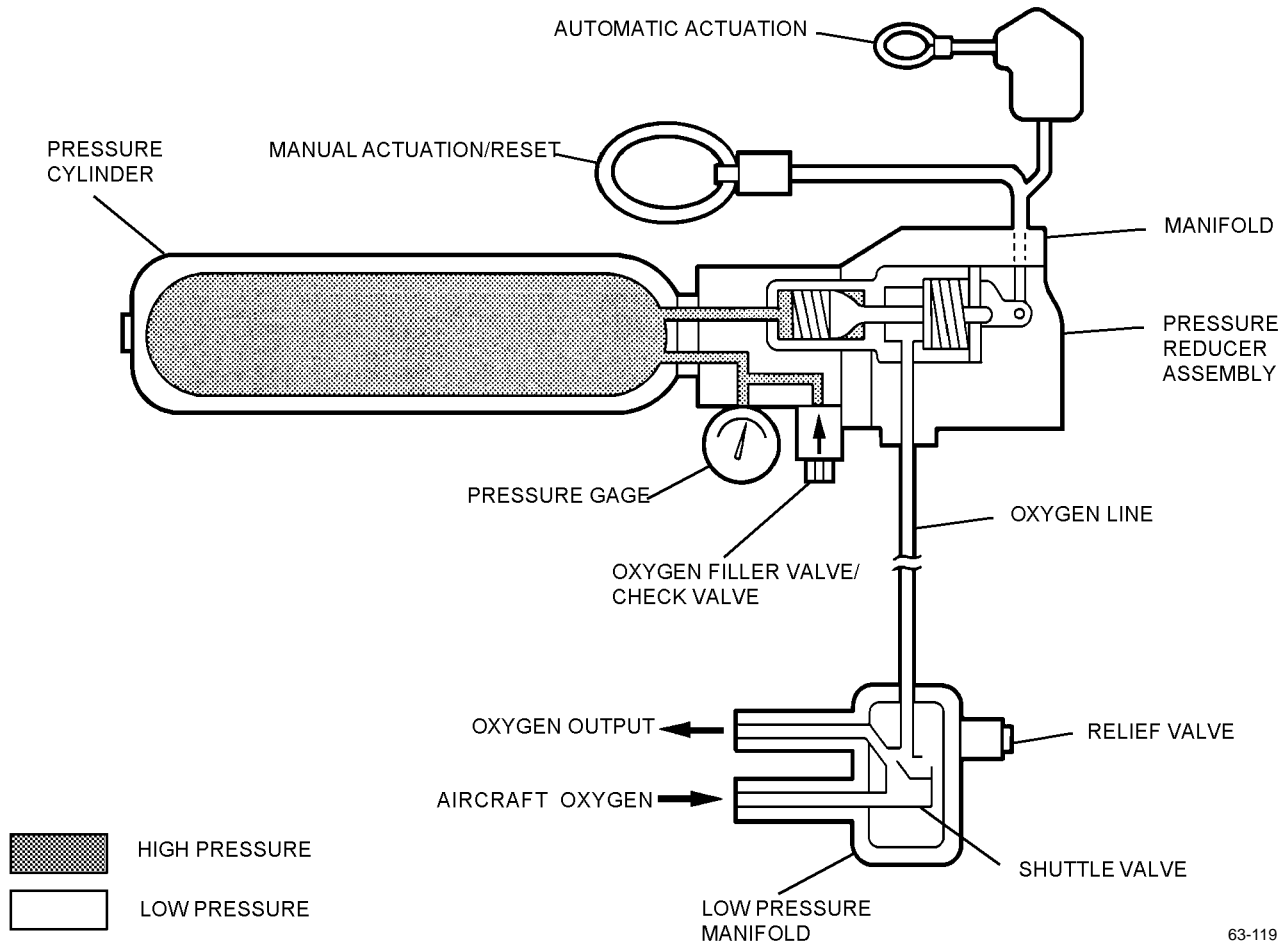


Figure 7-2. Oxygen System - Schematic

Section 7-2. Modifications

7-25. GENERAL.

7-26. Modifications to the SKU-7/A Seat Survival Kit Assembly required or authorized at this time are listed in [Table 7-1](#).

Table 7-1. SKU-7/A Directives

Description of Modifications	Applications	Modification
NACES URT-33/A Beacon Radio and Emergency Oxygen Lanyard Connector Retention. This modification shall be incorporated at every 728-Day Inspection.	All NACES SKU-7/A Seat Survival Kits	IACC 66-570

Section 7-3. Rigging and Packing

7-27. GENERAL.

7-28. Unless operational requirements demand otherwise, rigging and packing of the SKU-7/A shall be accomplished at the Intermediate Level of maintenance every 24 months. The AN/URT-33A radio beacon shall be inspected every 364 days in accordance with inspection procedures listed in the NAVAIR 16-30URT33-1.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by Quality Assurance (QA).

7-29. RIGGING AND PACKING PROCEDURES.

7-30. Rigging and packing of the SKU-7/A shall be accomplished in nine separate operations as follows:

1. Preliminary Procedures.
2. Radio Beacon Rigging and Installation.
3. Survival Equipment Binding.
4. Survival Equipment Packing.
5. Stowing Dropline.
6. Liferaft Preparation.
7. Attaching and Stowing Sea Anchor.
8. Liferaft Folding and Stowing.
9. Closing Liferaft Container.

CAUTION

Ensure that the survival kit assembly is rigged and packed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose the kit to any oily substances. Do not slide kit on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the survival package or liferaft assembly.

7-31. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-7/A.

1. Ensure SKU-7/A and components have been inspected in accordance with [Section 7-5](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.

WARNING

CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

4. Disconnect CO₂ cylinder from liferaft as follows:
 - a. Carefully remove liferaft from container
 - b. Disconnect actuation line from CO₂ cylinder

- c. Disconnect CO₂ cylinder from liferaft
 - d. Remove large loop of drop line from CO₂ cylinders neck
 - e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.
5. Ensure liferaft and CO₂ cylinder have been inspected in accordance with NAVAIR 13-1-6.1-1.
6. Remove and discard rubber bands from drop-line.

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 26 feet, 4 inches ± 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of ± 12 inches is acceptable for an older dropline assembly.

7. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 26 feet, 4 inches ± 12 inches.
8. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.

9. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.

10. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of attachment, corrosion, damage, wear, and ease of operation.

7-32. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Actuator Indicator Assembly	125B300-1 NIIN 01-167-0627
1	Pin, Cotter Hairpin	LHCOTC NIIN 00-956-5633
1	Lanyard, Actuating	Fabricate IAW paragraph 7-101
As Required	Thread, Nylon, Size E, Type II Class A	V-T-295 NIIN 00-244-0609 or equivalent
3	Rubber Bands, Type I	MIL-R-1832 NIIN 00-568-0323

Support Equipment Required

Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 7-102

NOTE

Inspect actuating lanyard to ensure lanyard has been modified in accordance with paragraph 7-101.

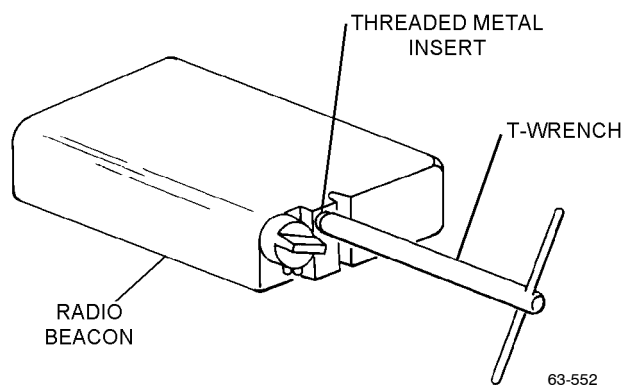
1. Ensure radio beacon ON/OFF slider switch is in OFF position, then determine if radio beacon has been modified in accordance with [steps 2 through 5](#).

NOTE

When slider switch is in OFF position, the ON position placard on beacon housing is not visible.

2. Remove automatic actuation plug and lanyard from radio beacon assembly.

3. Using locally fabricated T-wrench (see [paragraph 7-102](#) for fabrication), remove threaded metal insert from radio beacon actuator plug position.



Step 3 - Para 7-32

4. Install actuator indicator assembly handtight in position from which threaded insert was removed.

5. Install hairpin cotter through loop on actuating lanyard (tested and inspected in accordance with [paragraph 7-101](#)).

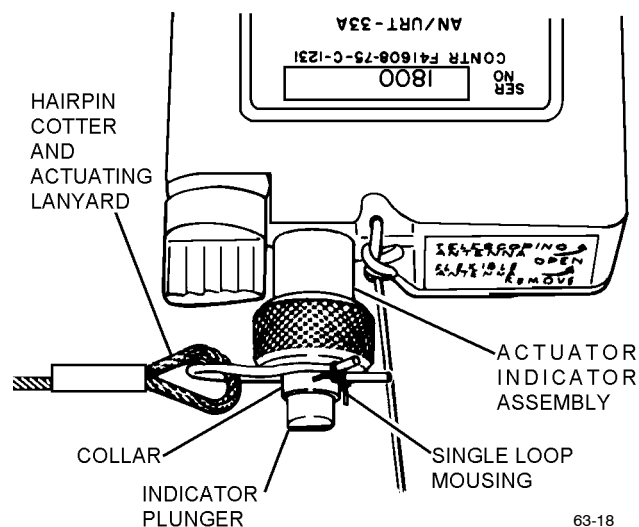
6. Depress actuator indicator plunger, align holes on collar and plunger, and insert hairpin cotter attached to lanyard loop.

7. Ensure hairpin cotter and collar are free to rotate 360° without binding.

NOTE

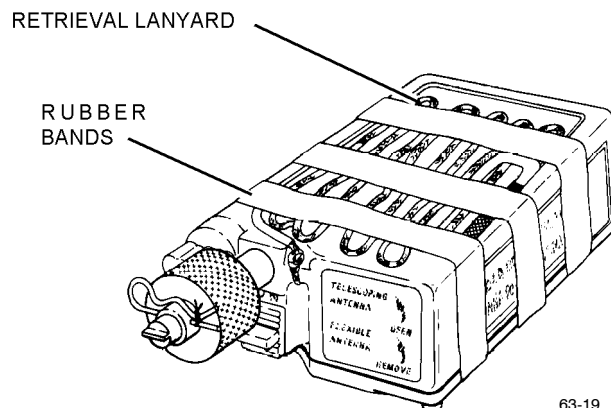
If there is no evidence of binding, proceed to [step 8](#). If hairpin cotter and collar do not rotate freely, refer to NAVAIR 16-30URT33-1.

8. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing using size E nylon thread. Secure mousing loop with square knot. Cut off excess thread approximately 1/8 inch from knot.



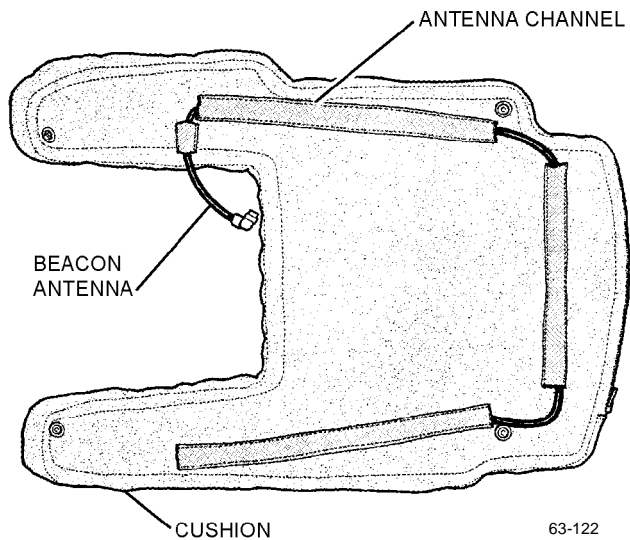
Step 8 - Para 7-32

9. Accordion-fold retrieval lanyard on top of radio beacon and secure with three rubber bands. Ensure retrieval lanyard is attached at both ends with a bow-line knot, with an overhand knot tied at the tag end.



Step 9 - Para 7-32

10. Insert flexible radio beacon antenna into retaining channel sewn on underside of seat cushion.



Step 10 - Para 7-32

11. Connect flexible antenna to radio beacon receptacle by pushing bayonet type fitting in and rotating to the right (clockwise).

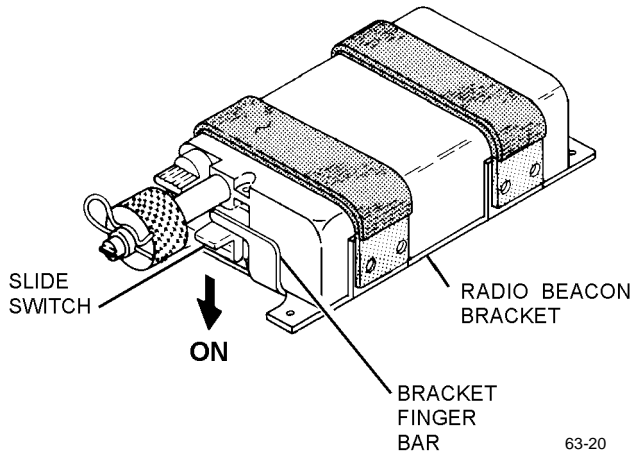
NOTE

Check to ensure actuator indicator plunger is secure in depressed position and hairpin cotter is safety-tied before moving slider switch to ON (armed) position.

12. Place beacon slider switch in ON (armed) position.

13. Holding beacon at approximately 45° angle install in beacon bracket with slider switch under the bracket finger bar. Press opposite end of beacon down to seat in bracket.

14. Ensure slider switch is secure in ON position under finger bar. Then secure radio beacon in bracket with hook and pile fastener.



Step 14 - Para 7-32

15. Check to ensure that antenna has not dislodged from beacon and position cushion on kit lid.

16. Position front edge of cushion's aft snap fasteners on lid snap fastener receptacles and press down to engage. Lift gently to check for proper connection.

17. Position lower edge of front snap fasteners on lid snap fastener receptacles and press down to engage. Lift gently to check for proper connection.

7-33. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 before binding. To bind survival items, proceed as follows (table 7-2).

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type I	MIL-C-5040
As Required	Cloth, Duck, Nylon	MIL-C-3953
2	Envelope, Clear Vinyl Plastic	MIL-B-117

Table 7-2. Survival Kit Items (Note 1)

Nomenclature	Quantity	Reference Number
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Nylon Cord, Type 1	50 ft	NAVAIR 13-1-6.5
Bailing Sponge, Type 2, Class 2	1	NAVAIR 13-1-6.5
Combat Casualty Blanket	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet (#1) (Medical) (Note 2)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet (#2) (General) (Note 2)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 6)	Optional	NAVAIR 13-1-6.5
Radio Beacon	1	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 4) or Water, Drinking Emergency (118 ml) (Note 4)	6 3	NAVAIR 13-1-6.5 NAVAIR 13-1-6.5
Smoke and Illumination Signal, (MK-13 MOD 0 or MK-124 MOD 0)	2	NAVAIR 13-1-6.5
Sea Dye Marker	2	NAVAIR 13-1-6.5
Latex Surgical Tubing	5 ft	NAVAIR 13-1-6.5
Green Lightstick, 12 hour (Note 3)	2	NAVAIR 13-1-6.5
S.O.S. Lightstick, Green, 8 hour (Note 3)	2	NAVAIR 13-1-6.5
HGU-32/P Anti-Exposure Hood (Note 5)	1	NAVAIR 13-1-6.5
HAU-12/P Anti-Exposure Mittens (Note 5)	1 pr	NAVAIR 13-1-6.5
<p>Notes: 1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIR-WARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.</p> <p>2. SRU-31/P complete kits consisting of both the Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.</p> <p>3. Replace Green Lightstick, 12 hour, with S.O.S. Light, Green, 8 hour, at Seat Survival Kit's next inspection cycle. Reference NAVAIR 13-1-6.5 for NIINs.</p> <p>4. If Bag, Drinking Water (50 ml), is not available, substitute Water, Drinking Emergency (118 ml), in accordance with NAVAIR 16-1-6.5.</p> <p>5. Not required to be packed if unavailable from supply.</p> <p>6. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.</p>		

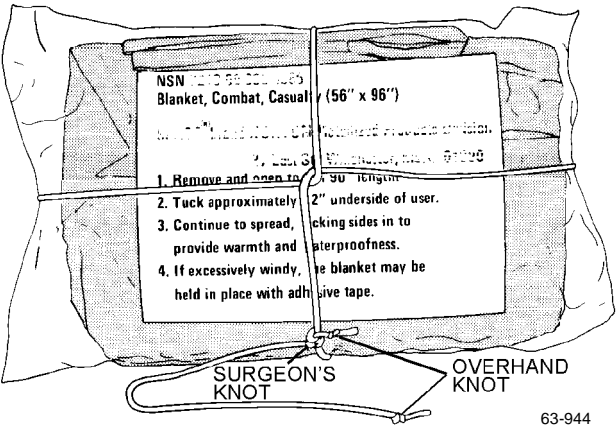
NOTE

To prevent loss of survival items, tie them individually and then tie them to a 155-inch length of nylon cord. Cord of the prescribed length required for this procedure shall be seared at both ends to prevent fraying (table 7-3). All cord used shall be nylon (MIL-C-5040, Type 1).

Table 7-3. Nylon Cord Lengths Required for Binding

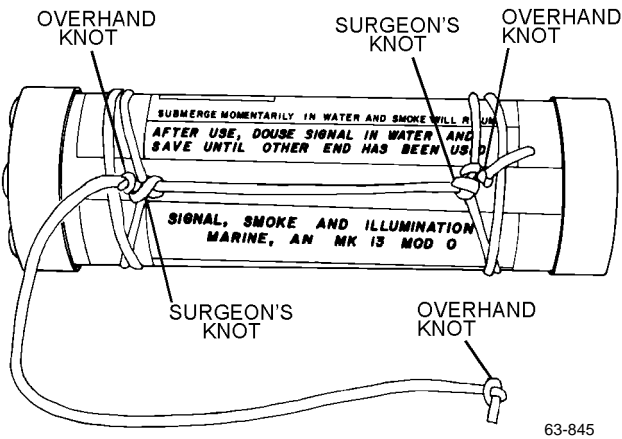
Length (Inches)	Number Required
12	8
24	2
30	2
36	3
40	1
155	1

1. Combat Casualty Blanket. Tie overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around casualty blanket. Rotate cord one quarter turn and wrap cord ends round opposite end of blanket. Tie with surgeon's knot. Ensure that an overhand knot is positioned snugly against surgeon's knot.



Step 1 - Para 7-33

2. Smoke and Illumination Signals. Tie overhand knot in both ends of a 36-inch length of nylon cord. Wrap one end of cord two overlapping turns around one end of signal flare and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Route cord to opposite end of flare and tie in same manner. Cord between end-ties shall be drawn tight. Repeat procedure for second flare.



Step 2 - Para 7-33

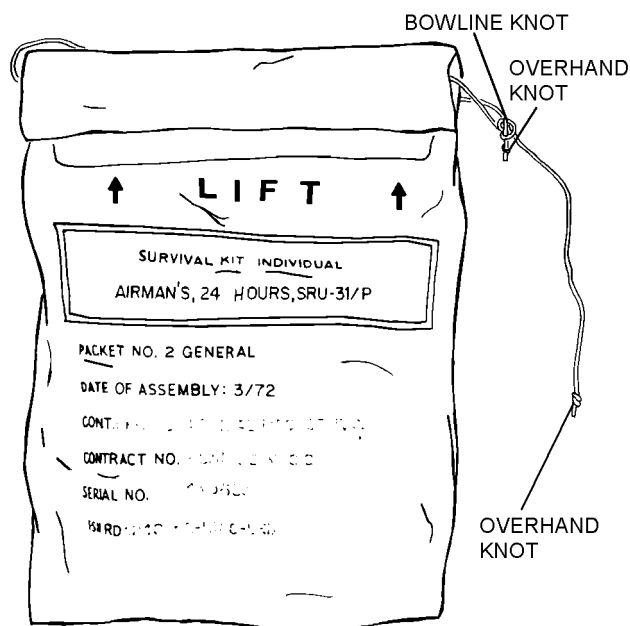
3. Sea Dye Marker. Tie overhand knot at each end of a 12-inch length of nylon cord. Pass overhand knot through center grommet in dye marker and tie a bowline knot allowing a 1-inch loop. Position an overhand knot snugly against the bowline knot. Repeat procedure for second dye marker.



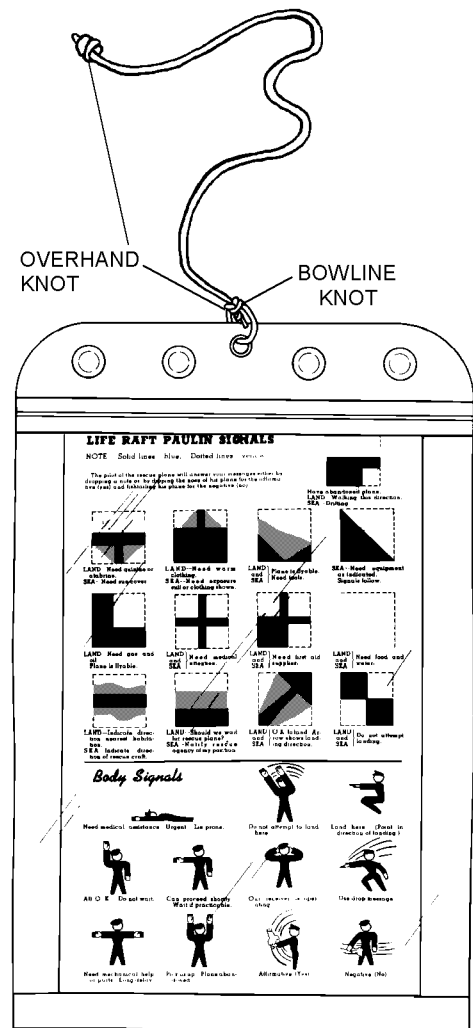
Step 3 - Para 7-33

4. SRU-31/P Survival Kit Packets #1 (Medical) and #2 (General). Tie overhand knot in both ends of a 24-inch length of nylon cord. Pass cord-end overhand knot through the tunnel formed by the cover flap and tie with a bowline knot allowing a four-inch loop. Position an overhand knot snugly against bowline knot. Tie Packet #2 in same manner.

5. Ground/Air Emergency Code Card. Place Ground/Air Emergency Code Card into clear vinyl envelope (MIL-B-117) and close sealing slide fastener. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass knot at one end through center hole in envelope. Secure with bowline knot with 1-inch loop; position overhand knot snugly against bowline knot.



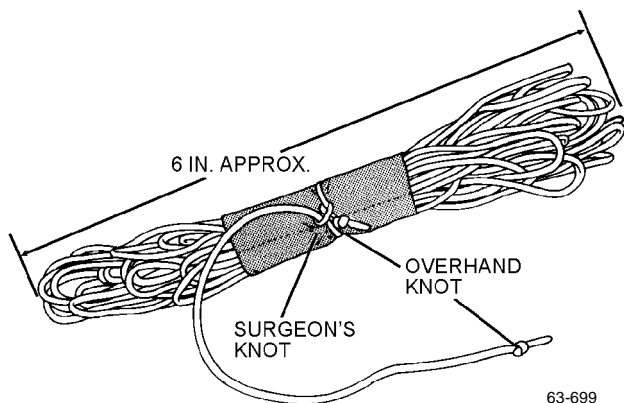
63-3067



63-700

NAVAIR 13-1-6.3-2

6. Nylon Cord, Type I, 50 Feet. Cut one 2-inch by 4-inch piece of nylon duck material. Accordion-fold entire length of nylon cord in 6-inch bights and wrap nylon duck material around center of accordion folded cord. Tie an overhand knot at each end of a 12-inch length of nylon cord. Wrap one end of cord around center of duck material and cord bundle and tie with surgeon's knot. Ensure overhand knot is positioned snugly against surgeon's.

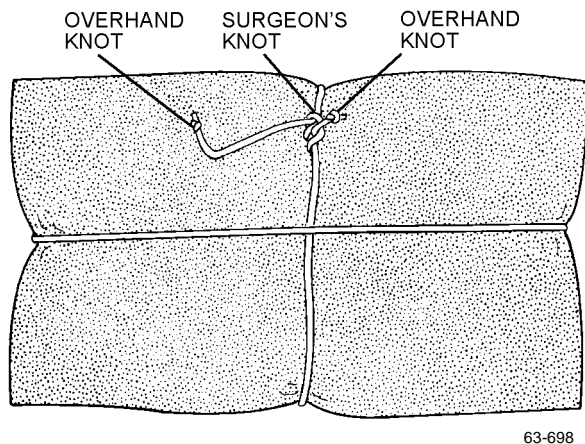


Step 6 - Para 7-33

NOTE

The bailing sponge should be compressed to a minimum thickness by compressing while damp and allowing it to dry in the compressed state before binding.

7. Bailing Sponge. Tie overhand knots in each end of a 30-inch length of nylon cord. Wrap cord around sponge until both ends meet, then rotate cord one quarter turn and wrap cord ends around opposite sides of sponge. Tie with surgeon's knot. Ensure an overhand knot is placed snugly against surgeon's knot.



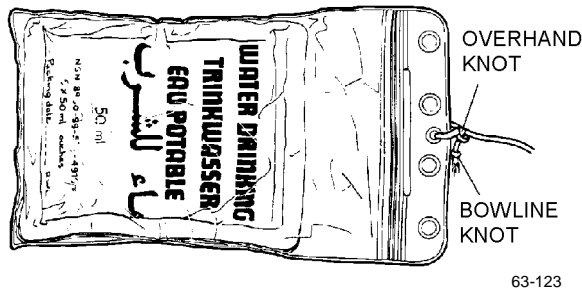
Step 7 - Para 7-33

8. Water Packets.

a. When utilizing Bag, Drinking Water (50 ml), NIIN 99-537-4919, place 6 water packets flat into clear vinyl envelope (MIL-B-117) and close sealing slide fastener.

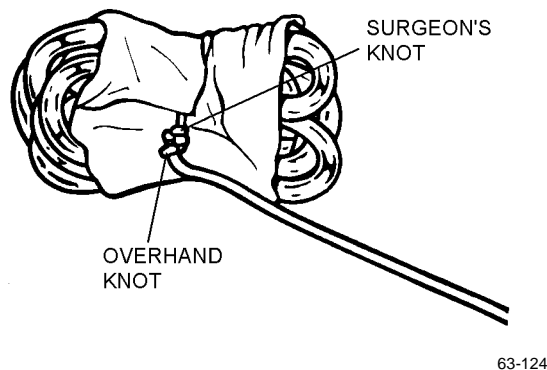
b. When utilizing Water, Drinking Emergency (118 ml), MIL-W-44126, fold the spout over about 1 1/2 inches, then fold bag in half. Place 3 individually folded bags into clear vinyl envelope (MIL-B-117) and close sealing slide fastener.

c. Using 12 inch length of nylon cord, tie overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1 inch loop. Position an overhand knot snugly against the bowline knot.



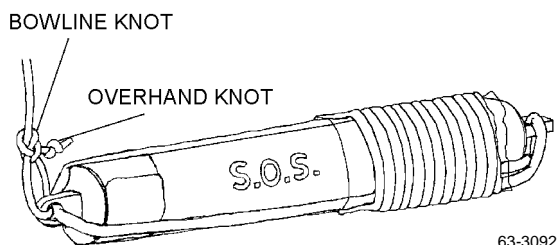
Step 8 - Para 7-33

9. Surgical Tubing. Cut one 2-inch by 5-inch piece of nylon duck material. Accordion-fold latex surgical tubing in 4-inch bights and wrap material around center of accordion folded tubing. Using 12-inch length of nylon cord, tie overhand knot near each end and secure one end of cord to center of material with surgeon's knot. Position an overhand knot snugly against surgeon's knot.



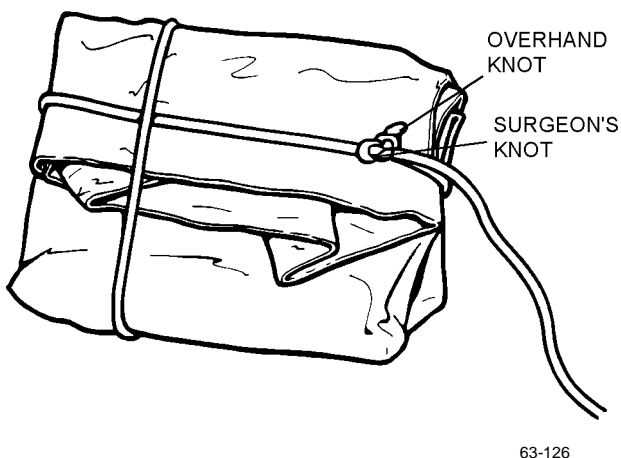
Step 9 - Para 7-33

10. S.O.S. Light, Green 8 Hour. Slip one end of a 12-inch length of nylon cord through capped end lanyard attachment tab. Tie overhand knots at both ends of nylon cord. Tie a bowline knot at the end where the nylon cord has been passed through attachment tab of lightstick. Ensure overhand knot is snugly placed against bowline knot. Repeat procedure for second lightstick.



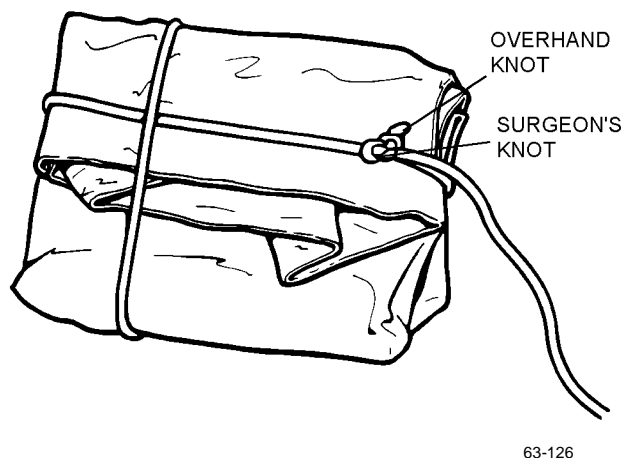
Step 10 - Para 7-33

11. Anti-Exposure Hood. Fold hood into a flat 3 1/2-inch x 4 1/2-inch package. Tie overhand knot in both ends of a 30-inch length of nylon cord. Wrap cord around folded hood until both ends meet, rotate cord one quarter turn and wrap cord ends around opposite side of hood. Tie with surgeon's knot. An overhand knot shall be placed snugly against surgeon's knot.



Step 11 - Para 7-33

12. Anti-Exposure Mittens. Evacuate trapped air and fold mittens into a flat 3 1/2-inch x 4-inch package. Ensure nylon cord connecting mittens is stowed inside package. Tie overhand knot in both ends of a 36-inch length of nylon cord. Wrap cord around folded mittens until both ends meet, rotate cord one quarter turn and wrap cord ends around opposite side of mittens. Tie with surgeon's knot. Position an overhand knot snugly against surgeon's knot.



Step 12 - Para 7-33

13. Binding Survival Items to Retaining Cord. Form an overhand loop knot approximately 12 inches from one end of a 155-inch length of nylon cord. Continue making nine additional overhand loop knots approximately 5 inches apart. Leave a 16-inch space and make six more overhand loop knots. A total of 16 overhand loop knots will be required.

14. Beginning at the first loop knot, tie one survival item to each overhand loop using a surgeon's knot in the order stated below (figure 7-3). Draw overhand knot tight after attaching survival item.

- a. SRU-31/P Packet No. 1 (Medical).
- b. Combat Casualty Blanket.
- c. Smoke and Illumination Signal.
- d. Smoke and Illumination Signal.
- e. Ground/Air Emergency Code Card.
- f. Sea Dye Marker.
- g. Anti-Exposure Hood.

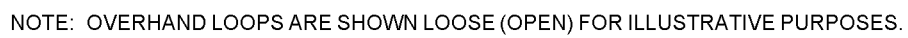


Figure 7-3. Binding Survival Items

- h. Anti-Exposure Mittens.
- i. Lightstick.
- j. Lightstick.
- k. Surgical Tubing.
- l. Nylon Cord, Type 1.
- m. SRU-31/P Packet No. 2 (General).
- n. Sea Dye Marker.
- o. Bagged Water.
- p. Bailing Sponge.

7-34. SURVIVAL EQUIPMENT PACKING. Pack survival equipment in rucksack as follows:

NOTE

No item has a top or bottom designation; however its longitudinal axis may be important.

References to left and right indicate relative positions when installed in aircraft. Rucksack pockets are marked L and R.

1. Ensure oxygen/communications hose assembly is not installed on survival kit lid. Position lid upside down on table with oxygen ON/OFF handle over edge of table and leg supports toward operator. Position survival equipment rucksack inside survival kit lid.

NOTE

If removing the oxygen/communications assemblies, cap inlet and outlet unions and ensure safe keeping of filter element in oxygen inlet union of low pressure manifold.

- 2. Open slide fastener.
- 3. Position bound items to be packed in front of survival kit.
- 4. Insert 12-inch bitter end (closest to SRU-31/P Packet No. 1) of 155-inch nylon cord through loop in inside center of rucksack. Tie with an approxi-

mate 2-inch loop bowline knot and an overhand knot. Ensure that overhand knot is snugly against bowline.

NOTE

Some early issue survival kits have slide fasteners which close from right to left and later kits have slide fasteners which close from left to right. Two procedures are therefore given for stowing the survival items.

5. If rucksack slide fastener closes from right to left, stow bound survival items into equipment compartment of rucksack as follows:

a. Fold SRU-31/P Packet No. 1 and stow in right leg pocket of rucksack. Position packet in bottom of pocket.

b. Stow casualty blanket on top of SRU-31/P Packet No. 1.

c. Stow the two smoke and illumination signals side-by-side on top of the casualty blanket; longitudinal axis lying fore and aft.

d. Stow ground/air emergency code card on top of signals; longitudinal axis lying fore and aft.

e. Stow first sea dye marker on top of emergency code card at rear of pocket.

f. Stow anti-exposure hood on top of the emergency code card in front of sea dye marker.

g. Stow mittens on top of hood.

h. Ensure that survival items in right pocket are properly stowed.

i. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to left to close right leg pocket of rucksack to retain survival items.

j. Stow both lightsticks in tunnel between leg pockets, with surgical tubing between them.

k. Position 16-inch length of cord (without knots) in tunnel between leg pockets.

l. Stow nylon cord in pocket at bottom rear of left leg pocket of rucksack.

m. Stow SRU-31/P Packet No. 2 in left leg pocket. Position flat in bottom of pocket leaving top flap out at front of pocket.

NAVAIR 13-1-6.3-2

n. Stow second sea dye marker behind SRU-31/P No. 2.

o. Stow bagged water flat on top of SRU-31/P, longitudinal axis lying fore and aft.

p. Stow sponge on top of bagged water.

q. Fold top flap of SRU-31/P Packet No. 2 over other items.

r. Ensure that survival items are properly stowed.

s. Ensure that nylon cord does not become trapped in slide fastener. Move slide fastener to left to close survival equipment compartment of rucksack.

t. Secure hook and pile tape on container.

6. If rucksack slide fastener closes from left to right, stow bound survival items into equipment compartment of rucksack as follows:

a. Stow SRU-31/P Packet No. 2 in left leg pocket. Position flat in bottom of pocket leaving top flap out at front of pocket.

b. Stow second sea dye marker behind SRU-31/P No. 2.

c. Stow bagged water flat on top of SRU-31/P, longitudinal axis lying fore and aft.

d. Stow sponge on top of bagged water.

e. Fold top flap of SRU-31/P No. 2 over other items.

f. Ensure that survival items in left leg pocket are properly stowed.

g. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to right to close left leg pocket to retain survival items.

h. Stow surgical tubing in the tunnel between the two lightsticks and nylon cord in left leg pocket.

i. Position 16-inch length of cord (without knots) in tunnel between leg pockets.

j. Stow nylon cord in pocket at bottom rear of right leg pocket in rucksack.

k. Fold SRU-31/P Packet No. 1 and stow in right leg pocket of rucksack. Position packet in bottom of pocket.

l. Stow casualty blanket on top of SRU-31/P Packet No. 1.

m. Stow the two smoke and illumination signals side-by-side on top of the casualty blanket, longitudinal axis lying fore and aft.

n. Stow ground/air emergency code card on top of signals, longitudinal axis lying fore and aft.

o. Stow first sea dye marker on top of emergency code card at rear of pocket.

p. Stow anti-exposure hood on top of the emergency code card in front of sea dye marker.

q. Stow mittens on top of hood.

r. Ensure survival items in right leg pocket are correctly stowed.

s. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to right to close survival equipment compartment of rucksack.

t. Secure container's hook and pile fasteners.

7-35. STOWING DROPLINE. Stow dropline as follows:

Materials Required

Quantity	Description	Reference Number
15 in.	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146 or equivalent
4	Rubber Bands, Type I	MIL-R-1832 NIIN 00-528-0323
As Required	Thread, Nylon, Size E, Type I, Class A	V-T-295 NIIN 00-244-0609 or equivalent

1. Lay out dropline between rucksack and lid. Remove all twists. Ensure that short end (closest to red loop) is toward rucksack and long end is toward lid.

2. Ensure the dropline is attached to rucksack assembly as specified in the steps below. If incorrectly installed or not installed attach as follows:

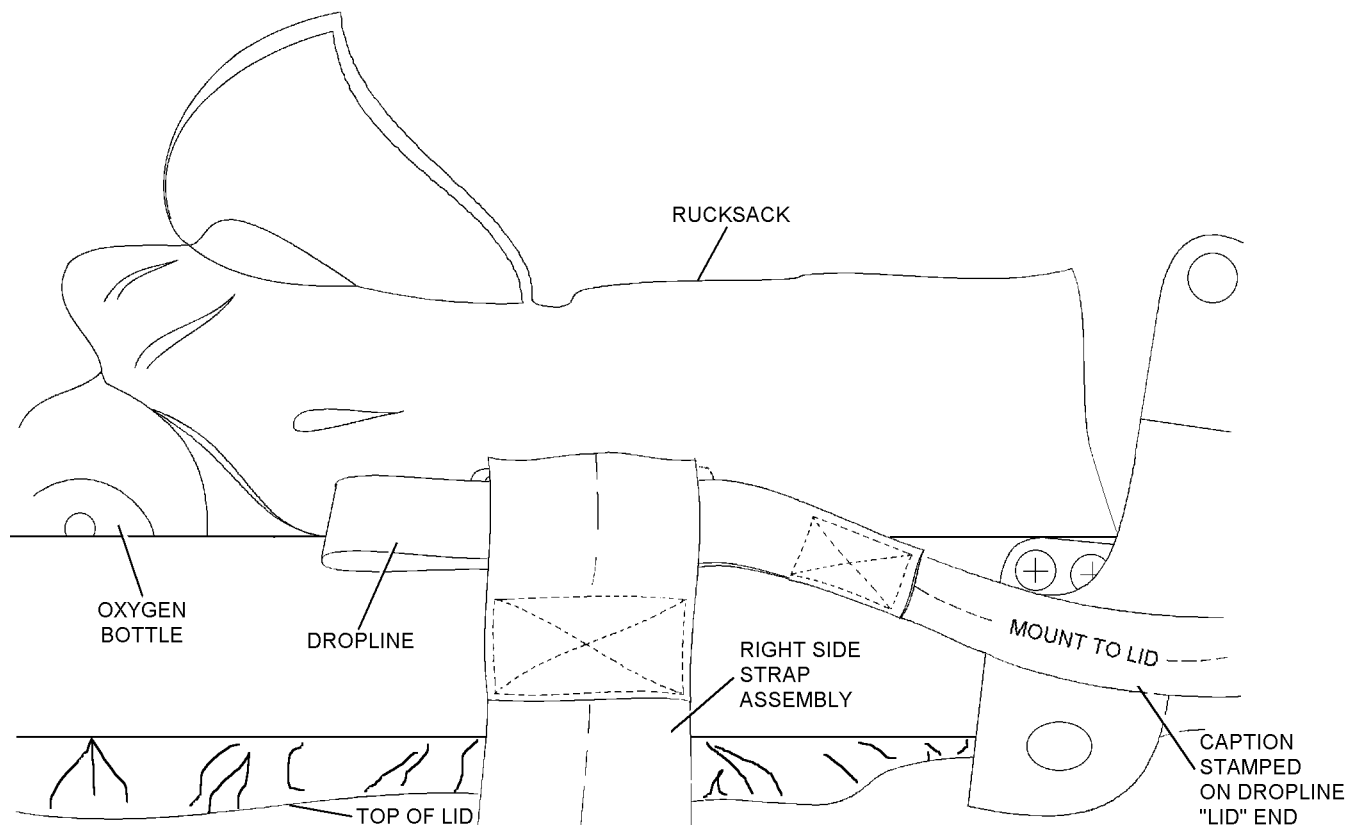
a. Pull looped end of dropline marked “mount to lid” through the right side strap assembly loop where it is attached to the bracket. Create a lark’s head knot by pulling the opposite end of dropline through loop end that had been pulled through the right side strap assembly. Tack lark’s head knot and webbing of strap assembly using waxed 6 cord, tied with surgeon’s knot followed by a square knot.

b. Remove the right side strap assembly using a phillips screwdriver and 3/8 inch wrench. Retain screws and nuts.

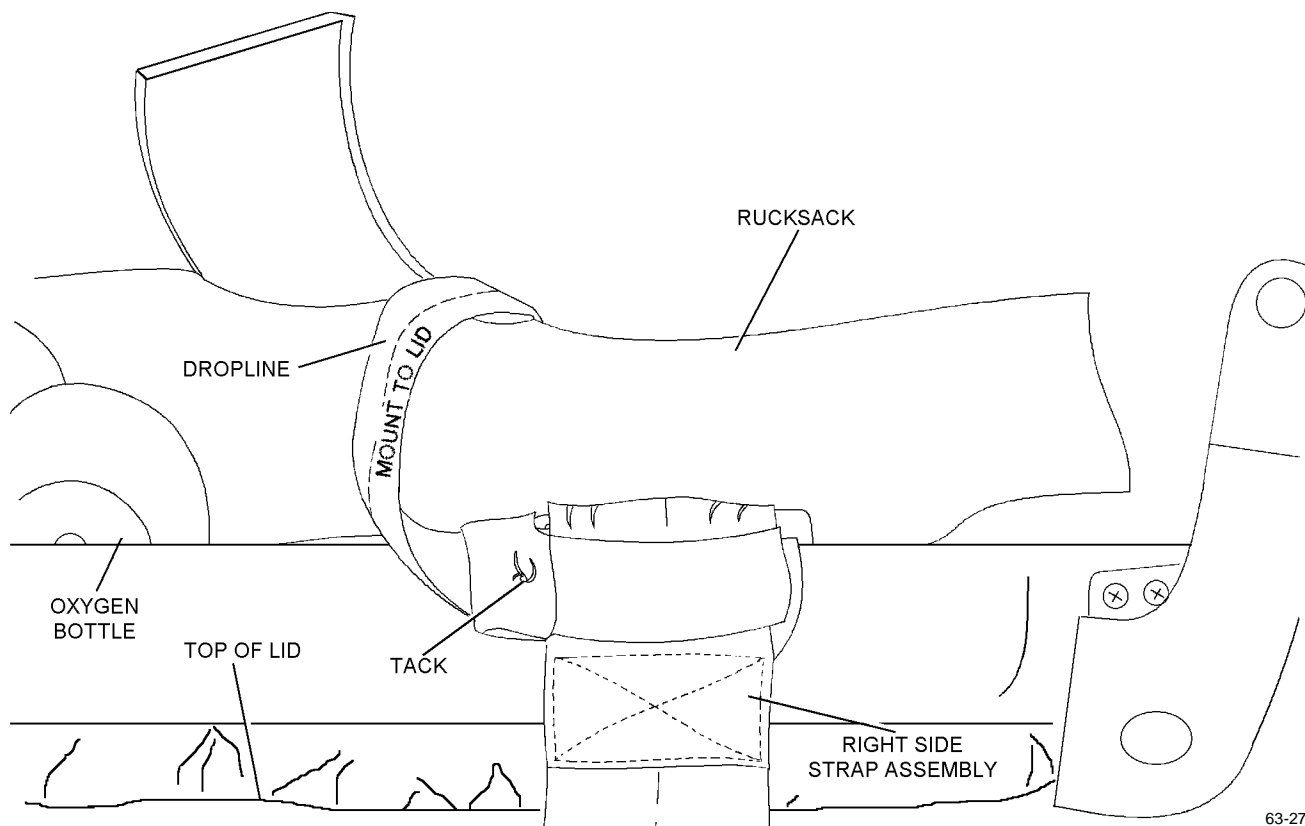
c. Pull looped end of dropline marked “mount to rucksack” through loop inside the liferaft compartment of the rucksack. Pull the right side strap assembly and dropline through loop creating a lark’s head knot (step a) and if no twists or knots are in dropline, tack lark’s head knot with waxed 6 cord, tied with a surgeon’s knot.

NOTE

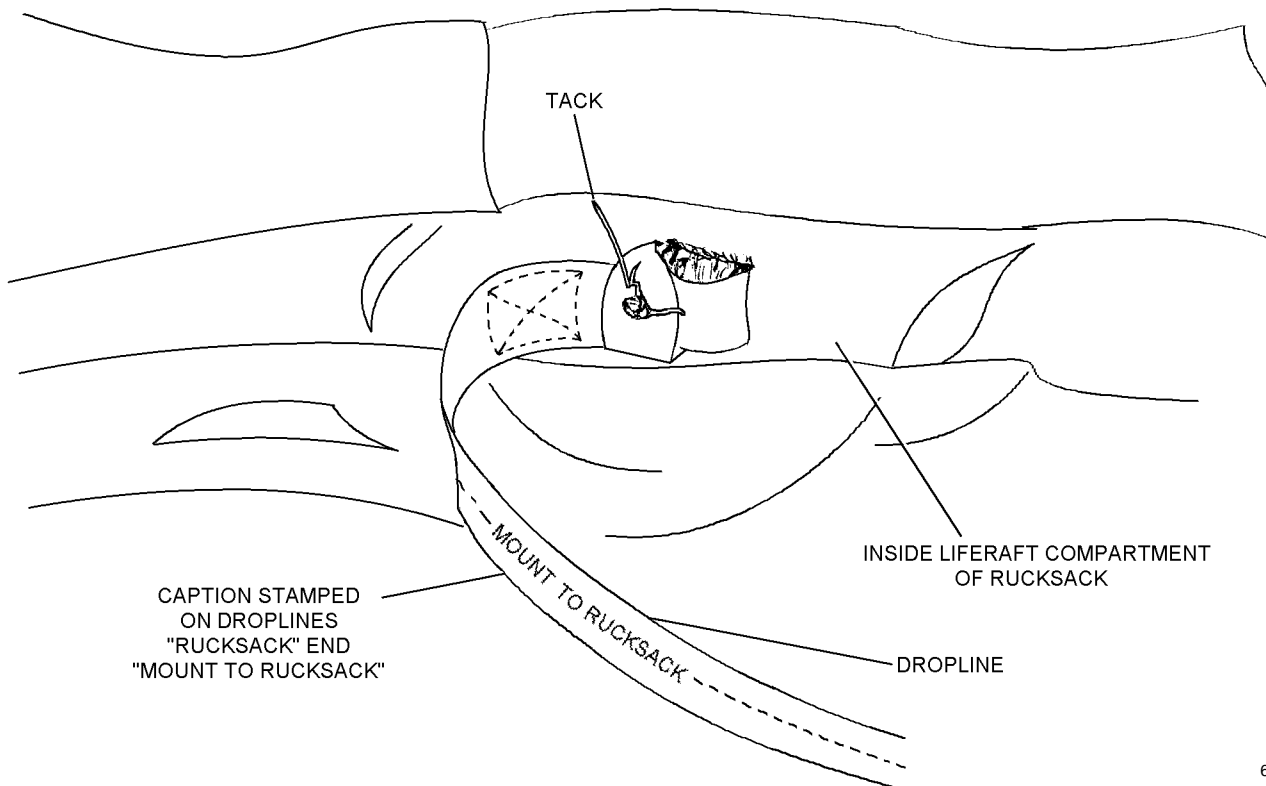
Before proceeding, ensure no twists or knots are in dropline.



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Step 2b - Para 7-35



Step 2c - Para 7-35

NOTE

Before reattachment of the right side strap assembly, ensure the dropline does not have any twists or knots.

d. Reattach the right side strap assembly ensuring that the lark's head knot is facing in the same direction when first attached to the side strap assembly. This is to ensure that the part number on the right side strap assemblies bracket is still visible(step 2a).

e. Ensure dropline has been attached properly.

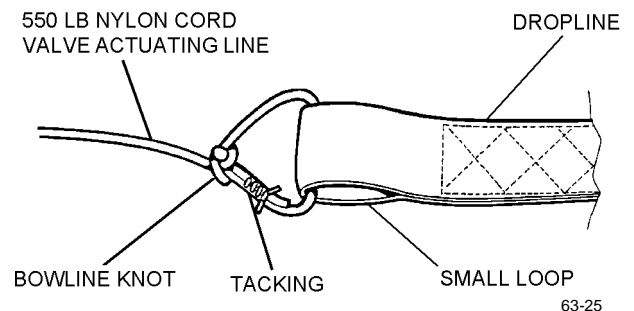
3. Fold dropline into bights. Secure bights with rubber bands.

4. Stow folded dropline in base of liferaft compartment.

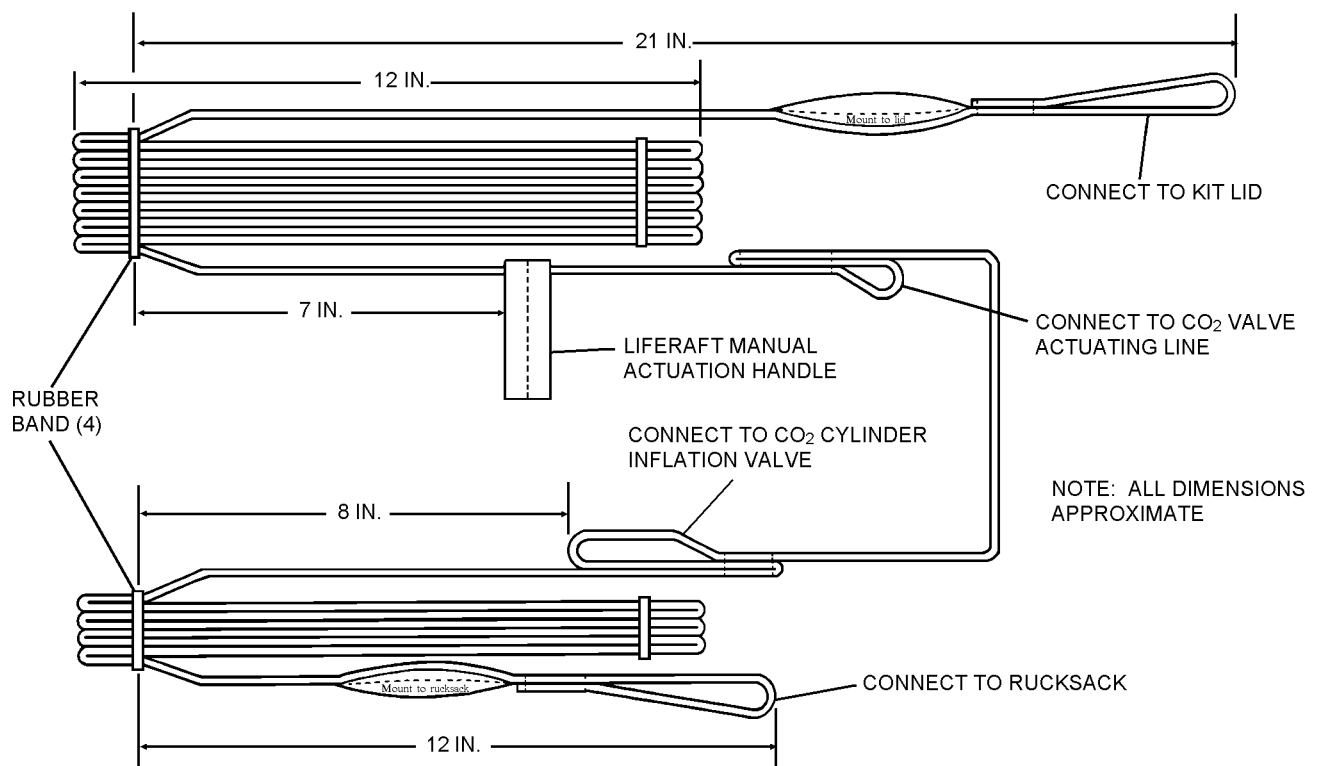
5. If the valve actuating line is damaged, incorrectly installed or not installed, install a new line as follows:

a. Cut a 15-inch length of 550-pound Type III nylon cord and sear ends.

b. Route one end through small loop on drop-line and tie bowline knot. Tack with three turns of waxed, size E nylon thread, single. Tie ends with surgeon's knot followed by square knot.



Step 5a and b - Para 7-35



Step 3 - Para 7-35

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7-36. LIFERAFT PREPARATION. Prepare liferaft for packing as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Talcum, Technical	MIL-T-50036A NIIN 01-080-9589
As Required	Thread, Nylon, Size 6, Type II, Class A	V-T-295 NIIN 00-559-5211 or equivalent
As Required	Thread, Nylon, Size E, Type I, Class A	V-T-295 NIIN 00-244-0609 or equivalent

1. Lay liferaft out flat with CO₂ cylinder adjacent to survival kit liferaft compartment (inside up and bow to the right).

NOTE

Ensure CO₂ cylinder has been removed from liferaft before proceeding to next step.

2. Deflate the liferaft in accordance with NAVAIR 13-1-6.1-1, ensuring that all air is removed and oral inflation valve is locked and stowed in pocket.

3. Lightly dust entire raft with talcum powder.

NOTE

Do not connect inflation valve to raft inlet valve at this time.

4. Install properly charged CO₂ cylinder in liferaft stowage pocket.

WARNING

The CO₂ cylinder contains gas under pressure. Do not loosen or attempt to remove inflation valve assembly from cylinder. Explosion may result.

5. Attach loop end of raft retaining lanyard around neck of inflation valve at CO₂ cylinder using lark's head knot (figure 7-4). Pull knot tight and tack with two turns of waxed, 6-cord, nylon thread, single. Tie ends with surgeons knot followed by a square knot.

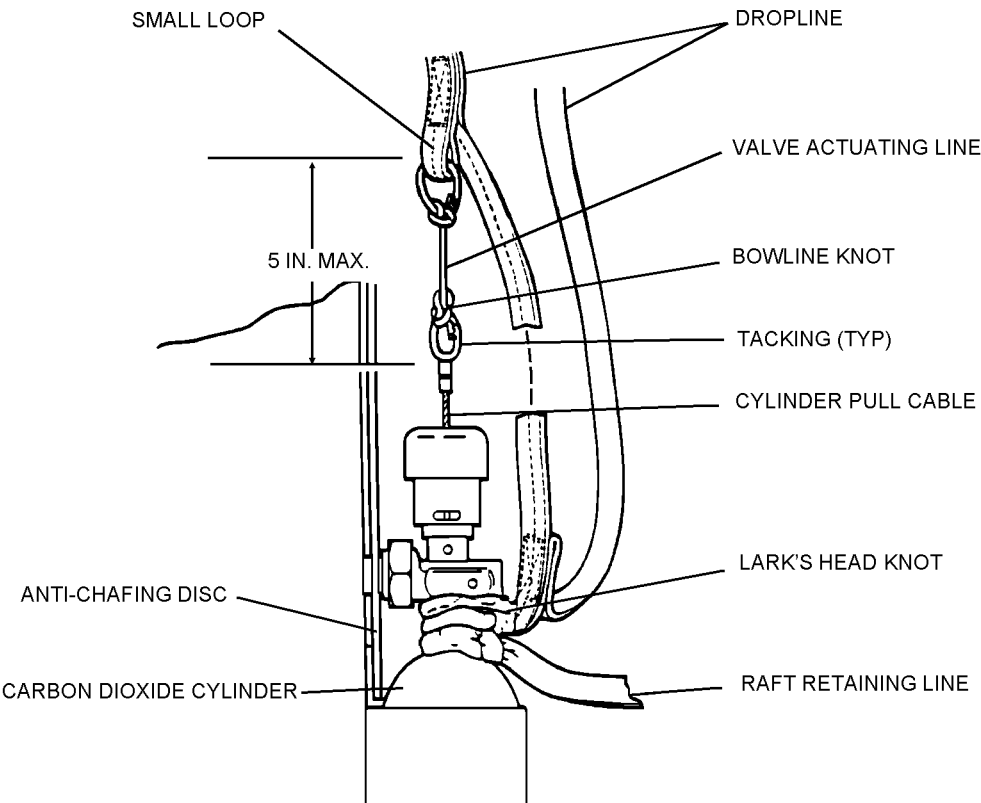


Figure 7-4. Liferaft Inflation Assembly

6. Accordion-fold raft retaining lanyard into 3-inch bights and stow in stowage pocket on raft. Make sure clip is enclosed in lanyard and that loop end is outside pocket. Close stowage pocket flap and secure with hook and pile fastener.

7. Attach large loop of dropline around neck of inflation valve at cylinder using lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord single. Tie ends with surgeon's knot followed by square knot.

8. Ensure anti-chafing disc is installed. Connect inflation valve to liferaft inlet valve. Torque coupling nut to 80-90 inch-pounds, taking care not to damage inlet valve.

WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

9. Pass actuating line through loop in end of cylinder pull cable (figure 7-4). Tie loop, using bowline knot. Tack with three turns of waxed, size E, nylon thread, single. Tie ends with surgeon's knot followed by square knot. Finished length shall not exceed 5 inches.

CAUTION

Ensure that end of dropline attached to rucksack does not become entangled in the liferaft during the folding operation.

10. Position short end of dropline leading to survival package (rucksack) clear of CO₂ cylinder.

7-37. ATTACHING AND STOWING THE SEA ANCHOR. Refer to figure 7-5 and attach and stow the sea anchor as follows:

Materials Required

Quantity	Description	Reference Number
10 ft	Cord, Nylon, Type I	MIL-C-5040

1. Tie one end of a 10-foot length of Type I nylon cord to the eye of the sea anchor using a bowline knot.

2. Tie the free end of the cord to the sea anchor attachment loop at the bow end of the liferaft using a bowline knot.

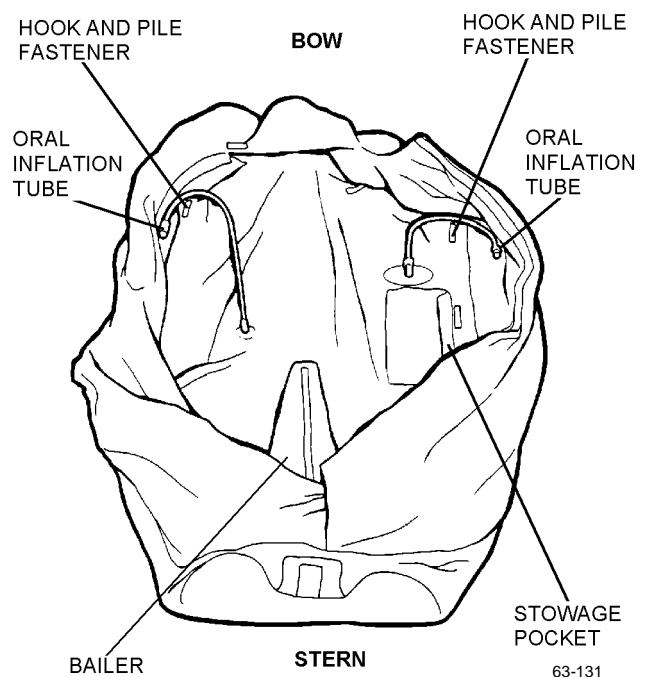
3. Lay out the sea anchor adjacent to stowage position and fake the attachment cord into the center of the anchor (step 1). Roll the sea anchor toward the attachment point, enfolding the attachment cord (step 2).

4. Place the rolled sea anchor between the hook and pile fastener strips at the bow end of the liferaft. If necessary, crease the liferaft so that fastener strips engage to secure the sea anchor and attachment cord (step 3).

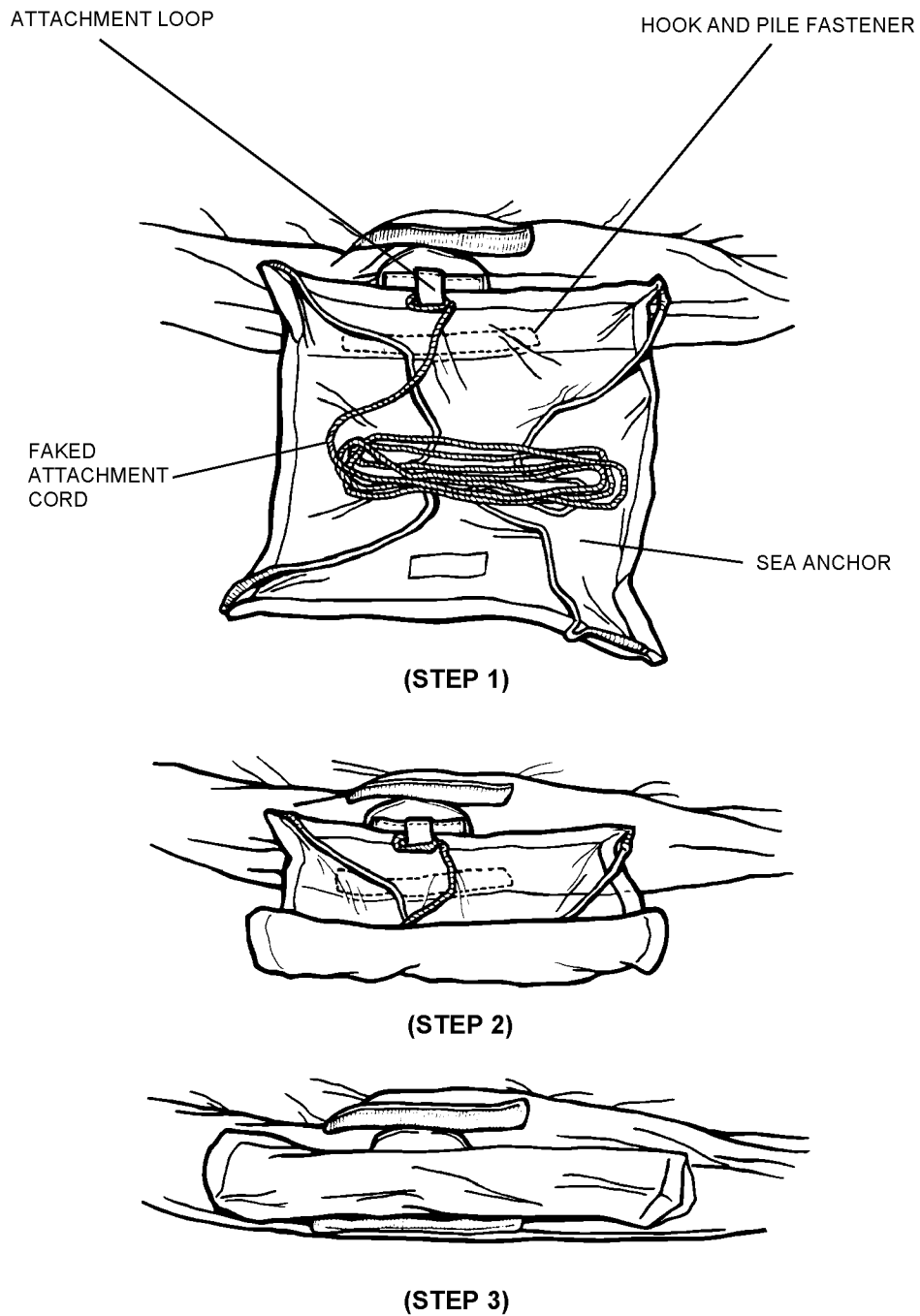
7-38. FOLDING THE LIFERAFT. Fold the liferaft as follows:

1. Ensure that all trapped air is expelled from the liferaft.

2. Lay the floor and buoyancy chamber oral inflation tubes toward the bow-end, inboard of the bow-end hook and pile tape fastener patches. Curve the tubes back toward the stern, outboard of the tape fastener patches.



Step 2 - Para 7-38



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Figure 7-5. Sea Anchor, Attaching and Stowing

3. Starting at the bow-end, fold the canopy under and mate with the three hook and pile fastener tape fastener patches on each side of the buoyancy chamber. Ensure that the oral inflation tubes curve around the bow-end tape fastener patches from inboard to outboard and back toward the stern.

4. Fold the hood portion of the canopy toward the stern and lay the visor flat and even under the hood.

5. Lay canopy sides flat and even on the buoyancy chamber.

6. (Refer to [figure 7-6](#)) Fold stern of liferaft inboard to the center and align outer edge of fold approximately one inch wider than the end of the CO₂ cylinder ([step 1](#)).

7. Fold inboard end back on itself so inboard edge of fold aligns with end of inflation valve ([step 2](#)).

8. Fold bow end inboard to the center and align outer edge of fold approximately one inch wider than the end of the inflation valve. Smooth down the folds and lay the water pockets flat ([step 3](#)).

9. Fold the inboard end back on itself so that the inboard end aligns approximately with the end of the CO₂ cylinder and smooth down the folds ([step 4](#)).

10. Tuck the end of the fold adjacent to the CO₂ cylinder under so that the liferaft does not protrude beyond the cylinder ([step 5](#)).

7-39. STOWING THE LIFERAFT. Stow the liferaft as detailed below:

1. Ensure dropline is stowed neatly in bottom of life-raft compartment.

2. Position liferaft in compartment so that CO₂ cylinder lies adjacent to emergency oxygen cylinder with dropline aft of CO₂ cylinder.

3. Position manual operating handle in front left corner.

4. Fold liferaft forward and form fold at rear of compartment.

5. Fold liferaft aft and form fold against CO₂ cylinder.

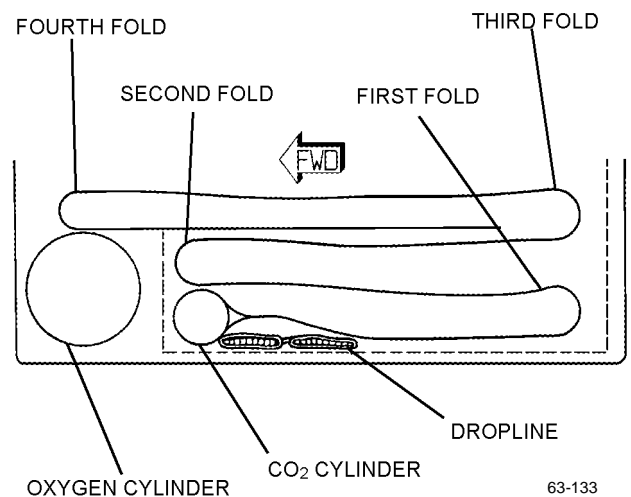
6. Fold liferaft forward and form fold at rear of compartment.

7. Fold liferaft under and aft and form fold at front of compartment, above CO₂ cylinder.

NOTE

Some adjustment of liferaft may be necessary to obtain flattest possible configuration.

8. Position manual operating handle (red) on top of folded liferaft.

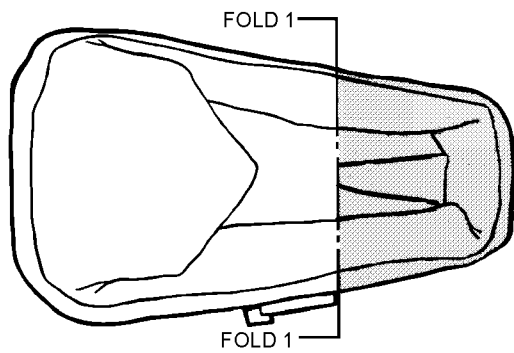


Steps 3 thru 8 - Para 7-39

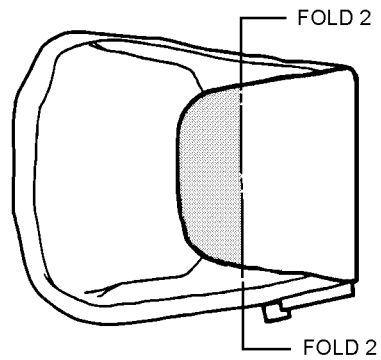
7-40. CLOSING LIFERAFT CONTAINER. Close the life raft container as detailed below:

Materials Required

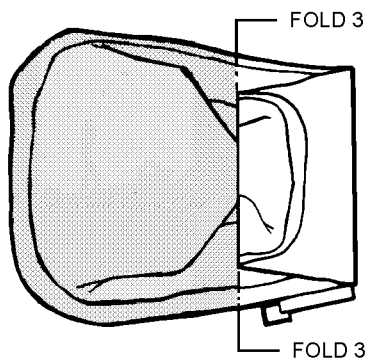
Quantity	Description	Reference Number
As Required	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146 or equivalent
As Required	Thread, Nylon, Size A, Class A	V-T-295 NIIN 01-174-9604



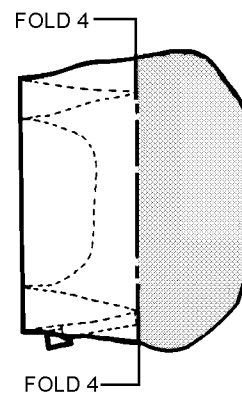
(STEP 1)



(STEP 2)



(STEP 3)



(STEP 4)



(STEP 5)

Figure 7-6. Folding the Liferaft

Support Equipment Required

Quantity	Description	Reference Number
1	Dial Push/Pull Gage 0 to 50 Pounds	DPP-50 (CAGE 11710)

1. Hold folded liferaft as flat as possible and position side flaps over the top of liferaft.

2. Bring front closure flap over top of liferaft.

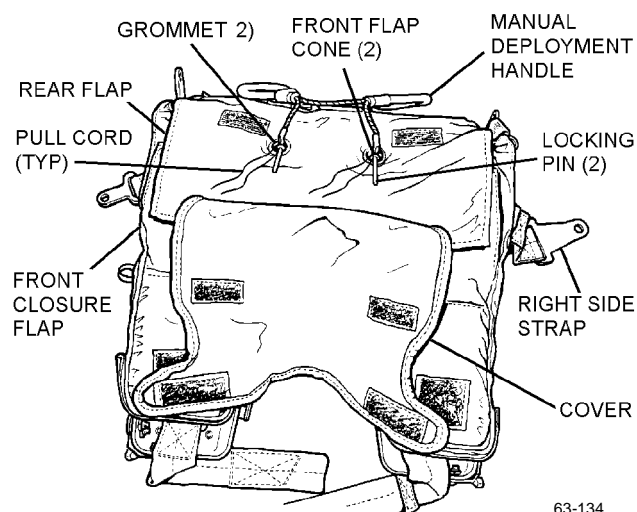
3. Prepare pull cords using two 25-inch lengths of Type III nylon cord. Remove and discard inner strands. Route nylon cord through each cone on front closure flap. Ensure an equal length of cord extends from each side of cone eye.

4. Bring over rear flap and route nylon cord through grommets of rear flap.

NOTE

Illustrations in following steps show use of manual deployment handle pins during closing of liferaft container.

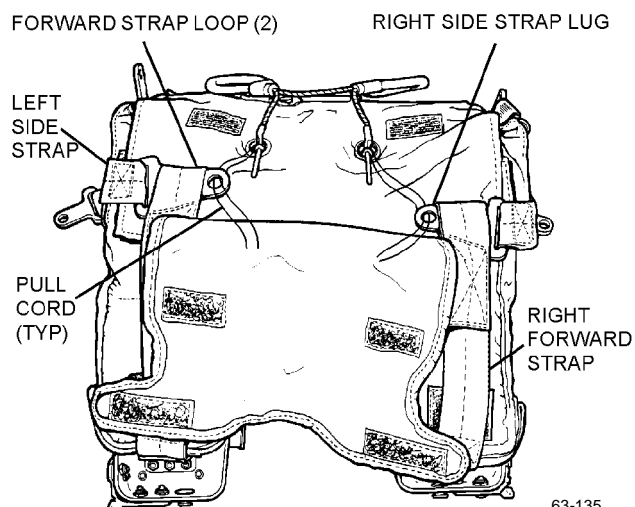
5. Pull cones through grommets of rear flap using nylon cord. Install temporary locking pins in cones or use pins on manual deployment handle assembly.



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Step 5 - Para 7-40.

6. Bring up left side strap and left forward strap and pass side strap lug through forward strap loop; route pull-cord through hole in side strap lug. Repeat procedure for straps on right side.



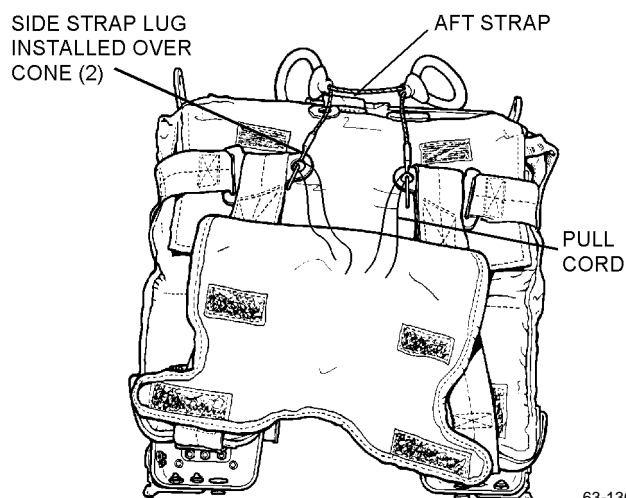
63-135

Step 6 - Para 7-40

7. Using nylon pull-cord, draw side strap lug into position snug against cone, remove locking pin from cone, pull cone through hole in lug, and reinstall locking pin.

NOTE

Use same procedure for both left and right side straps



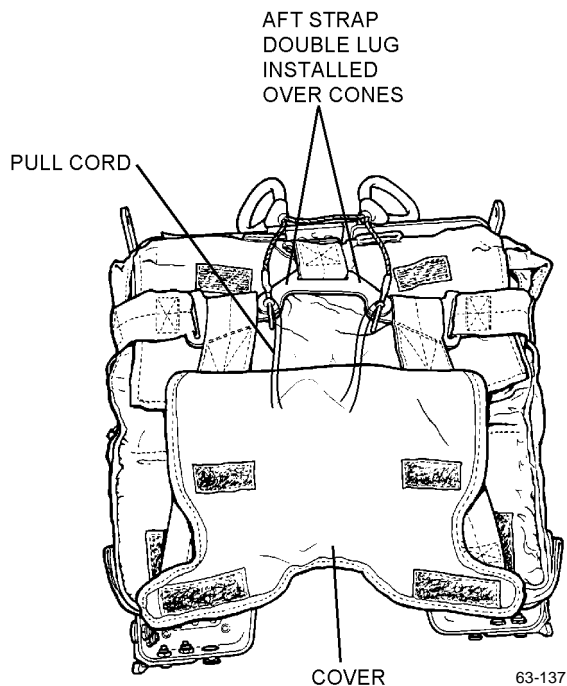
63-136

Step 7 - Para 7-40

NAVAIR 13-1-6.3-2

8. Thread nylon cord through holes in rear strap double lug.

9. Using nylon cord, pull up rear strap and install double lug over cones. Remove and reinstall pins one at a time to retain double lug.

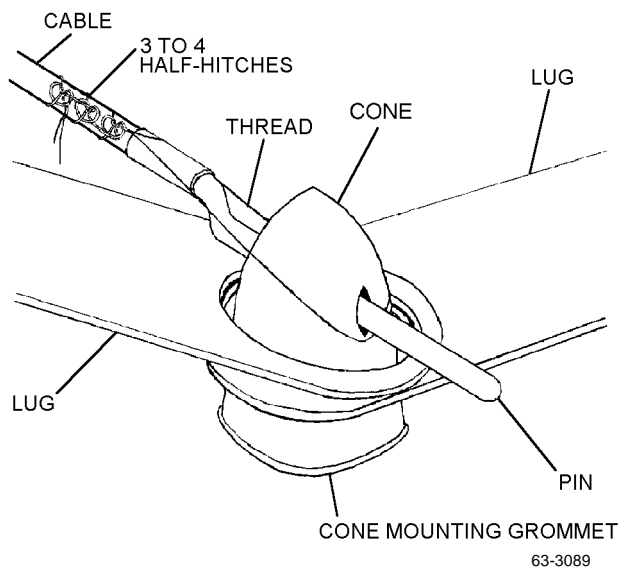


Step 9 - Para 7-40

10. If temporary locking pins were used, replace with pins of manual deployment handle. Remove nylon pull-cords from cones.

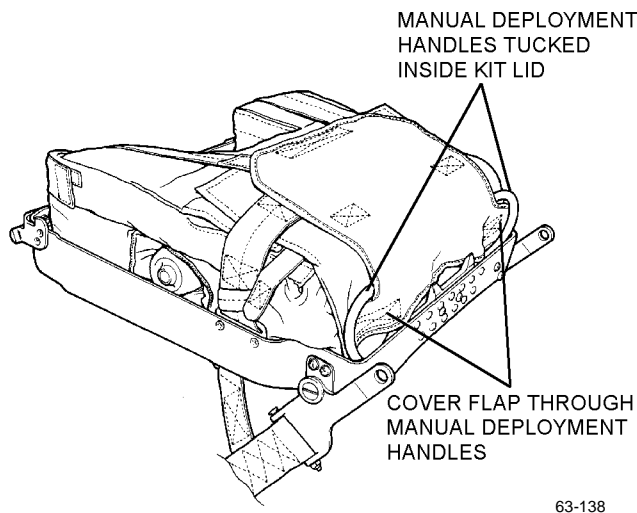
11. Using a 0-50 pound spring scale, check for movement of locking pins. Locking pins shall move when pull force, applied in either a right or left direction, is 30 pounds or less. If pull force is outside these limits, recheck packing and position of liferaft and rucksack in survival kit lid. Reinstall manual deployment handle and retest.

12. Safety tie both pins and cones by passing white nylon thread, size A, single, under end of pin, around cone, then securing both ends of thread together to ripcord cable with three to four half hitches.



Step 12 - Para 7-40

13. Ensure pins are correctly installed, close cover, position manual deployment handle assembly at rear of rucksack, pass corner flaps of cover through handles, and secure cover hook and pile fasteners. Ensure handles are tucked inside lid.



Step 13 - Para 7-40

Section 7-4. Turnaround/Daily/Preflight/Postflight/Transfer/ Special/Conditional Inspection.

7-41. GENERAL.

7-42. TURNAROUND/DAILY/PREFLIGHT/POST-FLIGHT/TRANSFER INSPECTIONS. These are visual inspections performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. The inspections shall be performed by line personnel (plane captain) or delegated aircrewmembers who have been instructed and qualified by the Aviators' Equipment Branch.

7-43. CONDITIONAL INSPECTION. This is an unscheduled inspection required as a result of a specific situation or set of conditions; e.g., hard-landing inspections or any inspection directed by a higher authority that is not ordered in a technical directive.

7-44. SPECIAL INSPECTION. This inspection is performed on in-service survival kits installed in aircraft and in ready room issue. The inspection shall be performed at the Organizational Level of maintenance by personnel assigned to the Aviators' Equipment Branch. Completion and date of inspection shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

7-45. INSPECTION PROCEDURES. Procedures for these visual type inspections are as follows:

1. Seat cushion for torn fabric or stitching, improper alignment on seat and secure fasteners.
2. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters and lid attachment fittings.

3. Lapbelt release assemblies for loose or missing screws and corrosion.

4. Ensure lapbelt attachment fittings have limited rotation (off-aircraft check only).

5. Oxygen/communications hose assembly (including those portions of the hose assembly between the aircraft console, the seat kit lid assembly, and the aircrewman's chest mounted regulator) for secure attachment, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings. Communication lead for secure attachment.

6. Ensure oxygen gage indicates FULL.

7. Manual emergency oxygen actuation handle for security and deterioration.

8. Automatic emergency oxygen lanyard assembly, beacon actuator lanyard assembly, and lower coupling assembly for security of attachment, damage, and/or corrosion.

9. Lid assembly for cracks, breaks, or other obvious damage.

7-46. If discrepancies are found or suspected, Maintenance Control shall be notified.

7-47. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready For Issue (RFI) survival kit. Non-RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 7-5. Acceptance/Phased/SDLM/PDM Inspection

7-48. GENERAL.

7-49. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or at the time a reporting custodian accepts a newly assigned aircraft from any source, and on return of an aircraft from SDLM/PDM or other major D-level rework. The Phased/SDLM/PDM Inspection cycle of the survival kit shall be every 24 months. In no case, however, shall the phased interval exceed 728 days. The battery test inspection cycle for the AN/URT-33A Radio Beacon is dependent upon the type of the battery installed. Refer to NAVAIR 16-30URT33-1 for battery test inspection cycles and requirements. For acceptance inspection purposes, verification of pyrotechnics and configuration is accomplished by visual record examination only. Disassembly beyond the daily inspection requirements of applicable publications is not required. Activities may elect to increase the depth of inspection if equipment condition, visual external inspection, or record examination indicates such action is warranted.

CAUTION

Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the rucksack/survival package assembly or liferaft.

7-50. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Remove the seat cushion and rucksack and inspect for the following:

1. Seat cushion for stains, torn fabric; torn, loose, or frayed stitching and secure fasteners.
2. Lid assembly for structural damage, corrosion, damaged or deteriorated finish. All lid assembly attaching screws and connectors for disturbed tamper dots.
3. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters and attachment fittings.

4. Lapbelt release assembly for loose or missing screws and corrosion.

5. Lapbelt attachment fittings for limited rotation.

6. Oxygen/communications hose assembly (including those portions of the hose assembly between the aircraft console, the seat kit lid assembly, and the aircrewman's chest mounted regulator) for secure attachment, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings. External communications lead for secure attachment.

7. Oxygen cylinder for distortion and chipped paint.

8. Emergency oxygen system for contamination, corrosion, damaged oxygen gage, crimped cable housing.

9. Rucksack assembly for stains, torn stitching, damaged fabric, damaged or worn eyelets and locking cones, slide fastener for corrosion and damage.

10. Drop line for fraying and contamination. Measure length of dropline. Length of dropline shall be 26 feet 4 inches \pm 12 inches.

11. Manual deployment handle assembly for security of cables and pins, and for cuts and breaks. If cuts, abrasions, or breaks are superficial (no deeper than 0.065 inch, not longer than 1/2 inch), handle assembly is acceptable for installation. If cuts, breaks, or abrasions in the rubber expose underlying metal, replace handle assembly. Check security of yellow deployment handles.

12. Strap assemblies for frayed or torn webbing, torn stitching, damaged or loose eyelets and corroded fittings.

13. Automatic emergency oxygen lanyard assembly, beacon actuator assembly, and lower coupling assembly for security of attachment, damage, and/or corrosion.

7-51. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of the kit. To perform a functional check, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) or 31TB1995-1 (CAGE 99251)
1	Dial Push/Pull Gage, 0-50 Pounds	DPP-50
1	Pin Punch, 3/32 inch	—



Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures or damage to seat kit may result. After repair, the entire test procedure shall be performed.

NOTE

Performance of the test stand (figure 7-7) is dependent upon the skill of the operator. Test stand operators shall be thoroughly familiar with the instruments, controls and connections of the systems incorporated in the test stand. Refer to NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 for details of operation of the 59A120 or 31TB1995 series liquid oxygen test stands.

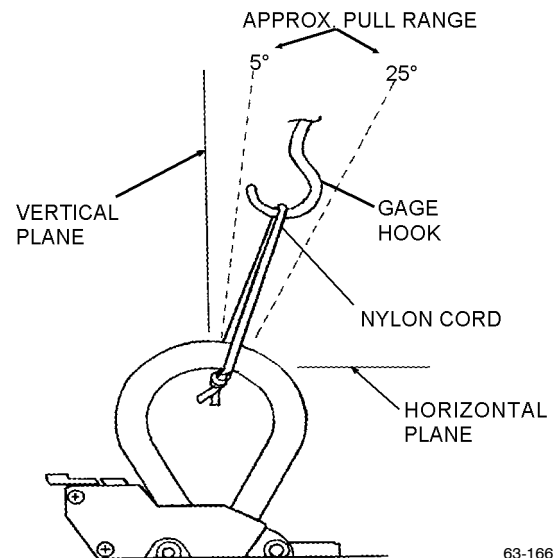
Emergency oxygen cylinder pressures used in this functional test were determined under ideal shop conditions of 70°F (21°C). Variations in ambient air temperature directly affect charging pressures. Refer to table 7-5 for details.

Ensure that emergency oxygen cylinder is filled to 1800 to 2000 psi.

1. Remove bell jar and connect oxygen outlet hose of survival kit to fitting C-1 on test stand. Ensure that valve V-2 is open and all other test stand valves are closed (figure 7-7).

2. Thread approximately 10 inches of nylon cord through the manual emergency oxygen actuation handle and tie ends together.

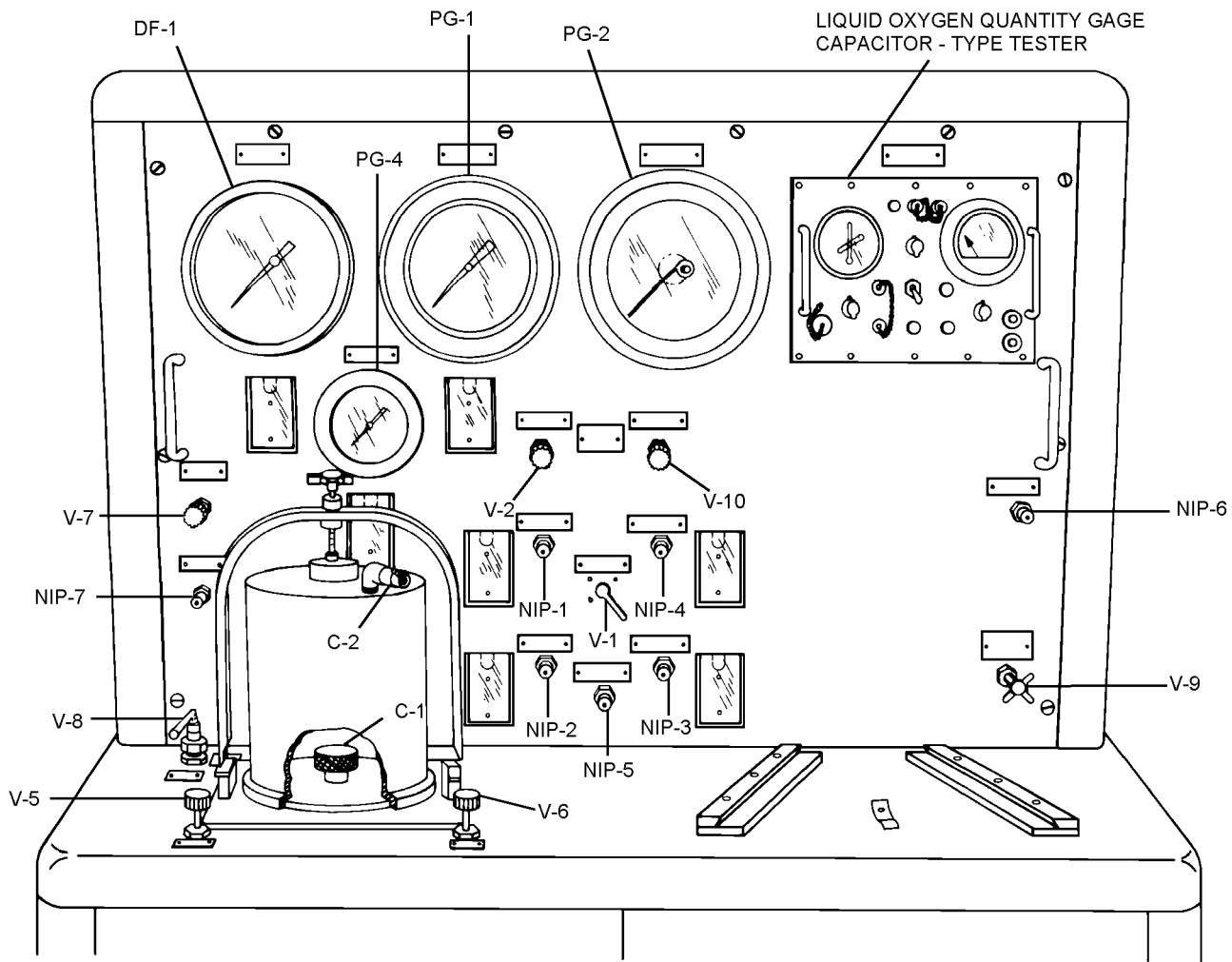
a. Insert hook of push/pull gage in loop formed by nylon cord and pull at a 5 to 25 degree angle from the vertical plane toward rear of survival kit.



Step 2a - Para 7-51

b. Measure force required to actuate manual oxygen actuation handle. Force required shall be 15 to 30 pounds. The emergency oxygen system shall actuate and indicate 30 to 90 psi on test stand gage PG-1.

3. Remove push/pull gage and nylon cord from manual actuation handle.



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 - 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 - 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 - 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 - 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 - 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 - 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 - 160 PSIG TEST PRESSURE GAGE		

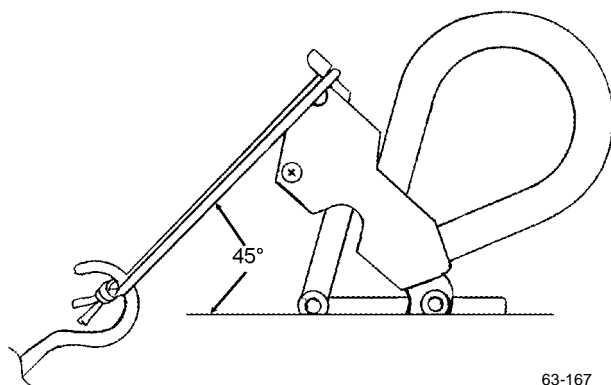
63-578

Figure 7-7. Test Stand Model 59A120

4. Using the 10-inch length of cord, form a loop using a binder knot and place loop over the push button arm (thumb lever) of the emergency oxygen manual actuation handle.

a. Position lid assembly on table with manual emergency oxygen actuation handle along the edge of the table.

b. Insert hook of push/pull gage in nylon cord loop placed over thumb lever of manual actuation handle and pull down and forward at about 45° angle.



Step 4b - Para 7-51

c. Measure force required to reset manual oxygen handle using ON-OFF mechanism. Force required shall be 15 to 30 pounds.

d. Remove gage and nylon cord loop.

5. Turn on test stand oxygen supply cylinder.

6. Slowly open valve V-6 on test stand and adjust pressure on gage PG-1 to 90 psi.

7. Actuate manual emergency oxygen actuation handle.

NOTE

Any degree of leakage in the oxygen system requires corrective maintenance.

8. Use leak detection compound to check all pressure lines and fittings on survival kit to ensure no leakage.

9. Reset manual oxygen actuation handle.



Do not increase pressure above 150 psi when unseating relief valve.

NOTE

Unseating can be determined by listening and observing pressure test gage PG-1 on test stand.

10. Using valve V-6, increase pressure until relief valve unseats.

NOTE

Pressure may be reduced below opening (unseating) pressure of the relief valve by closing valve V-6 and opening valve V-5.

11. Repeat step 10 several times to establish a correct pressure.

12. Relief valve shall unseat at 120 to 140 psi when pressure is increased and reseal at 110 psi minimum when pressure is decreased. Once relief valve is reseated, observe test pressure gage PG-1 to ensure that there is no indication of leakage (pressure drop).

13. Use leak detection compound to check relief valve for leaks. No leakage is allowed.

14. Close valve V-6 and bleed oxygen pressure from system by opening valve V-5. All pressure is bled when gage PG-1 indicates zero psi.

15. Close valve V-5.

16. Make sure valve V-2 is opened and all other test stand valves are closed.

17. If connected, disconnect beacon actuating lanyard from cable to lanyard assembly.

18. Attach push/pull gage to cable of automatic oxygen actuating lanyard assembly.

19. Position lid assembly so pull force can be applied to the automatic oxygen actuating lanyard in a downward direction to simulate ejection seat egress movement.

20. Measure force required to disengage automatic oxygen actuating lanyard assembly. Force required

NAVAIR 13-1-6.3-2

shall be 20 to 40 pounds, the emergency oxygen system shall actuate, and pressure test gage PG-1 shall indicate 30 to 90 psi.

21. Reset automatic actuation mechanism as follows:

a. Insert a 3/32-inch pin punch into the slot in cover of automatic emergency oxygen actuation mechanism and push slide forward (toward front of seat kit). Remove pin punch.

b. Insert ball end of emergency actuating lanyard into hole in front of release mechanism and push slide back.

c. Remove cap and reset cam mechanism through hole in lid by inserting screwdriver and pushing down to reset.

d. Reinstall cap.

e. Visually check to ensure swagged ball is seated properly in the automatic release slide while applying a slight pull on the cable-to-lanyard assembly to assure positive engagement.

22. Open valve V-5. Ensure that all other test stand valves are closed.

23. Actuate manual oxygen actuation handle assembly to ensure positive flow through valve V-5. Reset manual oxygen actuation handle.

24. Open valve V-8.

25. Slowly close valve V-5 while observing gage DF-1.

NOTE

Observe gage DF-1 for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires corrective maintenance.

26. Close valve V-8, open valve V-5, and disconnect oxygen outlet hose from fitting C-1.

27. Ensure all valves on test stand are secured.

28. Connect oxygen outlet hose to fitting NIP-6. Ensure that valve V-10 is open and all other test stand valves are closed.

29. Connect test stand hose to fittings NIP-5 and NIP-4.

30. Turn valve V-1 to NIP-4 position.

31. Ensure kit oxygen cylinder contains 1800 to 2000 psi oxygen pressure.

32. Pull manual oxygen actuation handle. Oxygen pressure on gage PG-1 shall indicate 30 to 90 psi.

33. Slowly open valve V-9 to indicate 90 LPM on flowmeter gage PG-2. Oxygen pressure shall indicate 30 to 90 psi on gage PG-1.

NOTE

When needle of kit cylinder pressure gage is between letters E and F of REFILL, pressure in cylinder is approximately 250 psi.

34. Observe kit emergency oxygen pressure gage and allow system pressure to decrease to 250 psi while maintaining 90 LPM and 30 to 90 psi.

35. Close valve V-9.

36. With zero pressure indicated on gage PG-2, pressure indicated on gage PG-1 shall be 30 to 90 psi.

37. Reset manual oxygen actuation handle to OFF position.

38. Bleed oxygen pressure from system by opening valves V-5 and V-2. All pressure is depleted when gages PG-1 and PG-4 indicate zero (0) psi.

39. Disconnect kit from test stand.

40. Secure test stand.

41. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

42. Recharge emergency oxygen cylinder to 1800 to 2000 psi oxygen pressure in accordance with [paragraph 7-52](#).

43. Perform electrical check of oxygen and communications hose assembly in accordance with NAV-AIR 13-1-6.3-1. Check all elements of the hose as-

sembly between the aircraft console, ejection seat survival kit assembly, and the aircrewman's chest mounted oxygen regulator.

7-52. PURGING AND CHARGING. Purge and charge the emergency oxygen cylinder as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nitrogen, Type I, Class 1, Grade B	BB-N-411
As Required	Aviators Breathing Oxygen, Type I	MIL-O-27210
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Adapter Set, Filler Valve or	T186C100-1 (CAGE 30941)
1	Adapter, Filling	21000-T130-1 (CAGE 53655)
1	Oxygen Purging Electric Heater or equivalent	C5378 (CAGE 96787)
1	Pressure Regulator	MIL-R-9198A

WARNING

Maintenance of emergency oxygen system shall be performed only after removal of survival kit from aircraft.

1. If survival kit has not been removed from the aircraft, remove kit from the aircraft in accordance with applicable maintenance manual prior to performing any maintenance on kit's emergency oxygen system.

2. Remove cushion assembly from survival kit assembly.

WARNING

If necessary to release pressure in oxygen bottle before purging or filling, pull emergency oxygen lanyard. This releases pressure through reducer/manifold. Do not release pressure through filler valve or adapter. Releasing high pressure oxygen through restriction of filler valve causes heat, possibly resulting in fire or explosion.

NOTE

Use of filling adapter on SKU-7/A survival kit is optional.

3. Remove plug and filler valve cap assembly and connect filling adapter to filler valve ([figure 7-8](#)).

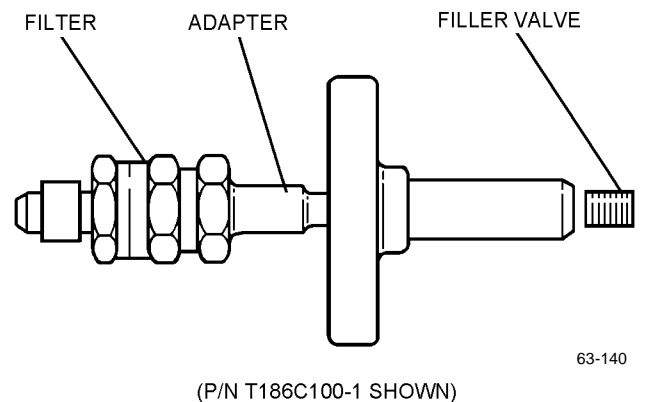


Figure 7-8. Filling Adapter

NOTE

If the emergency oxygen system is contaminated or the cylinder has remained empty for more than 2 hours, purging is required. If the system or cylinder does not require purging, proceed to [step 11](#) for charging sequence.

4. Deplete emergency oxygen cylinder if necessary.

5. Connect nitrogen source to filling adapter and close pressure reducer.

NOTE

If relief valve on Oxygen Purging Electric Heater will not allow 100 psi, raise pressure only to allowable limit.

6. Slowly pressurize to 100 psi with nitrogen at a temperature of 110-130°C (230-266°F) using electric heater.

7. Turn off nitrogen source and deplete oxygen cylinder.

8. Repeat steps 6 and 7 twice.

9. With pressure reducer open, turn on nitrogen source and purge for 10 minutes at a temperature of 110-130°C (230-266°F).

10. Turn off nitrogen source and disconnect.

11. Connect oxygen source to filling adapter with suitable pressure regulator and shut-off valve. Reset ON/OFF or lanyard activation mechanism as appropriate.

WARNING

Observe filling stages, as rapid application of oxygen pressure creates heat which may result in fire or explosion.

Allow no less than 3 minutes for each filling stage and 2 minute intervals for cooling between stages.

12. Slowly pressurize to 100 psi.

13. Deplete cylinder to 50 psi.

NOTE

If kit is to be stored, the emergency oxygen bottle shall be depleted or filled to 200 PSI (when needle on gage bisects E on REFILL). For shipping, fill or deplete to 25 PSI using the gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with table 7-4 until pressure gage indicates correct pressure for existing ambient temperature (table 7-5).

Table 7-4. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

Table 7-5. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

15. Loosen oxygen filler adapter until all pressure is bled from high-pressure line. Remove filling adapter.

WARNING

Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Also compound exhibiting peculiar odors such as acetone or alcohol is considered contaminated and shall be disposed of.

NOTE

Alternate Fill Valve P/N 9120097-27 is coreless and has a maximum leakage rate of 1 cc/hr. This will be evident by very tiny bubbles passing through the top of the valve when leak detection compound is applied level to top rim. No leaks around

threads are acceptable. If large bubbles are evident, contact survival kit FST for disposition.

16. Examine leak detection compound then apply around connection points of oxygen gage, reducer, and filler valve. Check for leaks. Then thoroughly wipe clean and dry with lint-free cloth, filtered low-pressure compressed air, or low pressure oxygen.

17. Reinstall oxygen filler valve cap on filler valve. Filler valve cap should be hand tight only.

18. Reinstall plug and filler valve cap assembly.

19. Reinstall cushion assembly on survival kit.

20. If survival kit assembly was removed from aircraft in [step 1](#), reinstall survival kit in accordance with applicable maintenance manual.

Section 7-6. Maintenance

7-53. GENERAL.

WARNING

Keep working area clean and free from oil, grease and dirt. Do not attempt to perform any component removal with the oxygen system pressurized.

Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the survival package assembly or liferaft.

7-54. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment. Disassemble only to extent required to perform task. Work shall be performed in a clean, dust- and grease-free area.

7-55. TROUBLESHOOTING.

7-56. When malfunctions or other operating problems are encountered, locate probable cause and remedy using [table 7-6](#).

7-57. DISASSEMBLY.

7-58. UNPACKING SURVIVAL KIT. Refer to [figure 7-9](#) and unpack survival kit as follows:

1. Remove oxygen/communications lead assembly. Install dust covers on lead assembly and kit connectors.

1A. Disconnect beacon radio lanyard from radio (not pictured).

2. Place kit upside down on table, rear of kit toward packer.

3. Separate hook and pile fasteners (1) and lift cover flap (2) enclosing manual deployment (yellow) handles (8).

4. Carefully withdraw closure pins (6) from cones (7) of front closure flap (3) and remove manual deployment handles (8).

5. Remove side strap lugs (LH/RH) (5) from front closure flap cones and front strap loops.

Table 7-6. Troubleshooting

Trouble	Probable Cause	Remedy
Low or zero indication.	System empty.	Charge system (paragraph 7-52).
	Defective gage.	Replace gage.
	Leaking components.	Tighten connections or replace.
Oxygen system output pressure not within 30 to 90 psig limits.	Defective pressure reducer.	Replace reducer.
	Pressure reducer out of adjustment.	Adjust reducer (paragraph 7-97).
Relief valve leaking.	Dirty or defective relief valve.	Replace relief valve.
	Defective quadring.	Replace relief valve.
Relief valve does not unseat within tolerance of 120 to 140 psi when simulated pressure is applied during test.	Defective relief valve.	Replace relief valve.
No oxygen flow at kit-to-man hose from aircraft system (emergency oxygen system not actuated).	Defective outlet manifold.	Replace outlet manifold.
No oxygen output pressure with pressure reducer actuated.	Defective oxygen gage.	Replace gage and charge cylinder.
	Foreign matter in output flow path.	Bleed system, disassemble, clean, purge and recharge (paragraph 7-52).
	Weak or broken spring in pressure reducer.	Replace reducer (paragraph 7-88).
	Pressure reducer out of adjustment.	Adjust (paragraph 7-97).
Pulsating pressure at outlet port.	Pressure reducer out of adjustment.	Adjust (paragraph 7-97).
Oxygen system leaking; low pressure side of reducer.	Loose fittings.	Tighten as required.
Oxygen system leaking; high pressure side of reducer.	Defective O-ring or backup ring.	Replace reducer.
Pressure reducer will not shut off.	Defective pressure reducer.	Replace reducer.
Manual emergency oxygen does not actuate (Pull up) or reset (Push down) within a tolerance of 15 to 30 pounds.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
No oxygen flow at kit-to-man hose when emergency oxygen system is actuated by automatic oxygen lanyard.	Automatic actuation cable pulls free of release assembly before reducer is actuated.	Adjust emergency oxygen automatic release assembly (paragraph 7-98).

Table 7-6. Troubleshooting

Trouble	Probable Cause	Remedy
Unable to obtain proper adjustment of lapbelt assembly.	Faulty lapbelt adjuster.	Inspect/replace lapbelt adjuster (paragraph 7-77).
	Improper routing of webbing.	Disassemble lapbelt assembly (paragraph 7-77) and reassemble correctly.
	Dirt/grease on slides.	Disassemble lapbelt assembly (paragraph 7-77) and clean slides using clean, dry cloth. Reassemble lapbelt adjuster.
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors.	Perform electrical check (NAVAIR 13-1-6.3-1). Replace oxygen/communication hose assembly as required.
	Open or short circuit in oxygen hose wiring.	
Pull force to deploy kit is not within a tolerance of 20 ± 10 lbs.	Survival kit not properly packed.	Repack survival kit.
	Heavily burred release pin.	Replace manual deployment handle assembly.

6. Remove aft strap double lug (9) from cones (7) and open rear, front and side closure flaps to expose liferaft.



Use caution when removing liferaft from kit to ensure that inflation valve is not inadvertently actuated causing inflation of liferaft.

7. Carefully remove liferaft from rucksack.

8. Remove thread safety tie and disconnect valve actuating line from actuating valve pull cable loop.

9. Remove 6-cord safety tie and disconnect drop-line from CO₂ cylinder neck.

10. Release hook and pile fastener on survival items stowage pockets, fold flap downward and open zip fastener.

11. Remove survival items from stowage and disconnect retaining line from loop in center of rucksack.

12. Remove rucksack from kit lid assembly.

7-59. SURVIVAL KIT DISASSEMBLY. Disassemble survival kit in the order indicated, using index numbers in figure 7-9 as reference.

NOTE

Discard all O-rings, cotter pins, seals, and teflon tape from oxygen connections during disassembly.

7-60. Determine area of malfunction using table 7-6 and disassemble only to the extent required to adjust or replace malfunctioning component.

WARNING

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in minute quantities, coming in contact with oxygen can cause explosion or fire. Dust, lint and fine metal particles are also dangerous.

7-61. LID ASSEMBLY. Refer to [figure 7-9](#) and disassemble lid assembly as follows:

Support Equipment Required

Quantity	Description	Reference Number
1	Drive Pin Punch, 1/16 inch	—

1. Actuate emergency oxygen actuation handle (10) to discharge the cylinder as required.

NOTE

If the cylinder is completely discharged, it may require purging prior to charging. Refer to [paragraph 7-52](#).

2. Pull and remove automatic actuating lanyard assembly (11).

3. Remove filler valve plug and cap assembly (12).

4. Remove four attaching screws (13), washers (14) and cap nuts (15) and remove pressure reducer assembly cover (16) from lid assembly.

5. Disconnect low pressure tube union nut (17) from pressure reducer (18).

6. Remove cotter pin (19), washer (20) and threaded pin (21) connecting pressure reducer sear (22) to emergency oxygen actuation handle assembly (10).

7. Loosen, but do not remove, retention nuts (23) securing automatic actuation conduit assembly (24) to conduit bracket (25).

8. Remove four attaching screws (26) from automatic release housing cover (27) and remove cover and slide (29) from housing (28).

9. Remove two attaching screws (30) and washers (31) which secure automatic release housing (28) to lid assembly.

CAUTION

On completion of the following step, the emergency oxygen system will no longer be fastened to the lid assembly. Any undue movement of the oxygen system may damage the automatic actuation conduit.

10. Remove conduit bracket screws (32), manifold screw (40), and four cylinder clamp screws (34) and cap nuts (35) from clamps (36) and (37).

11. Remove conduit bracket screw (46) and cap nut (45).

12. Carefully move oxygen cylinder assembly (33) so automatic release housing (28) can be removed from conduit (24) and lid assembly.

CAUTION

The pressure reducer assembly (18) shall not be disassembled. A malfunctioning reducer shall be replaced if malfunction cannot be corrected by adjustment.

13. Remove oxygen cylinder assembly (33) from the lid assembly.

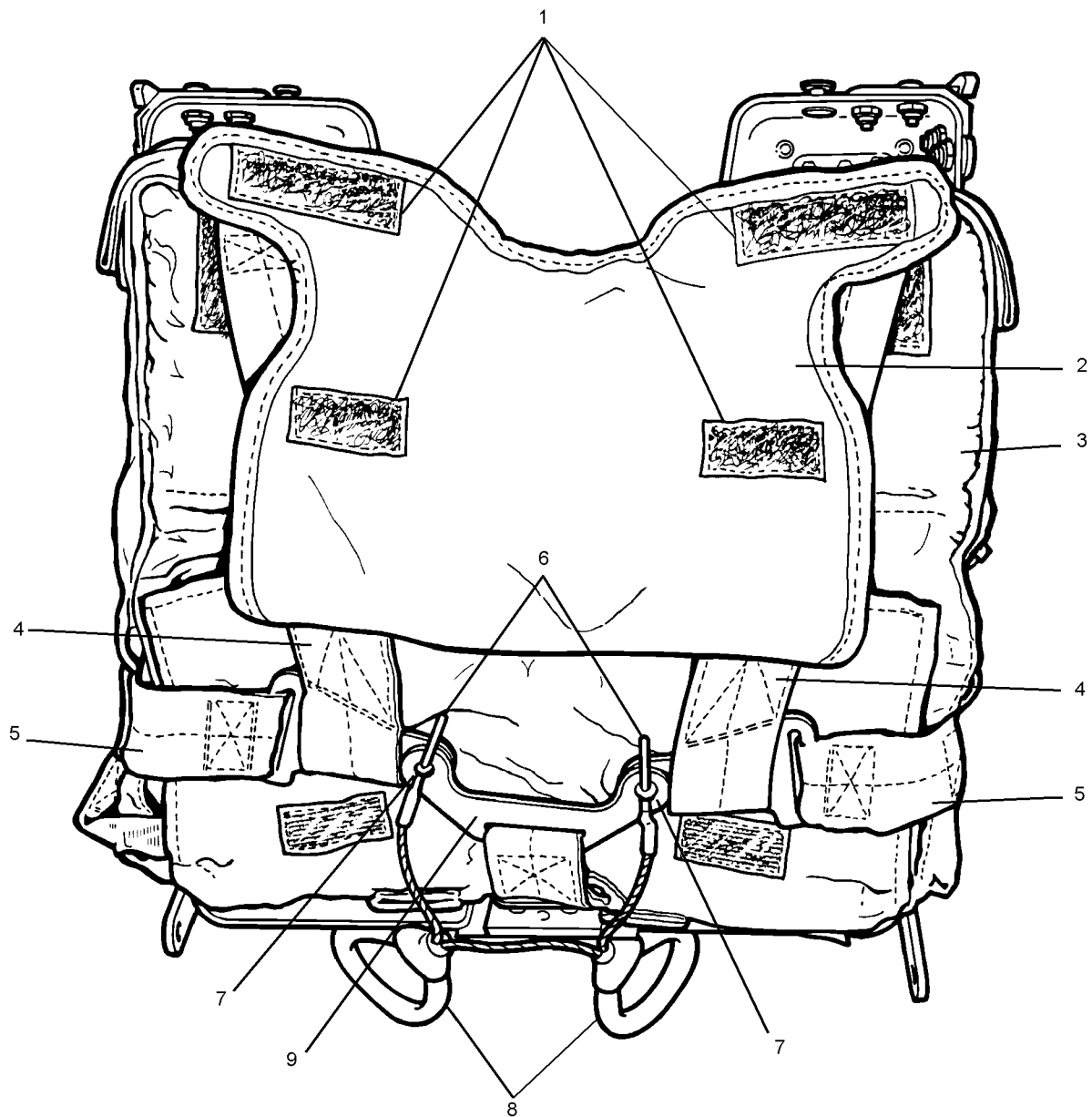
14. Using a 1/16-inch pin punch, remove spring pin (38) retaining automatic actuation cable in reducer automatic actuation cam.

15. Remove automatic actuation conduit special retaining nuts (23).

16. Remove automatic actuation conduit assembly (24).

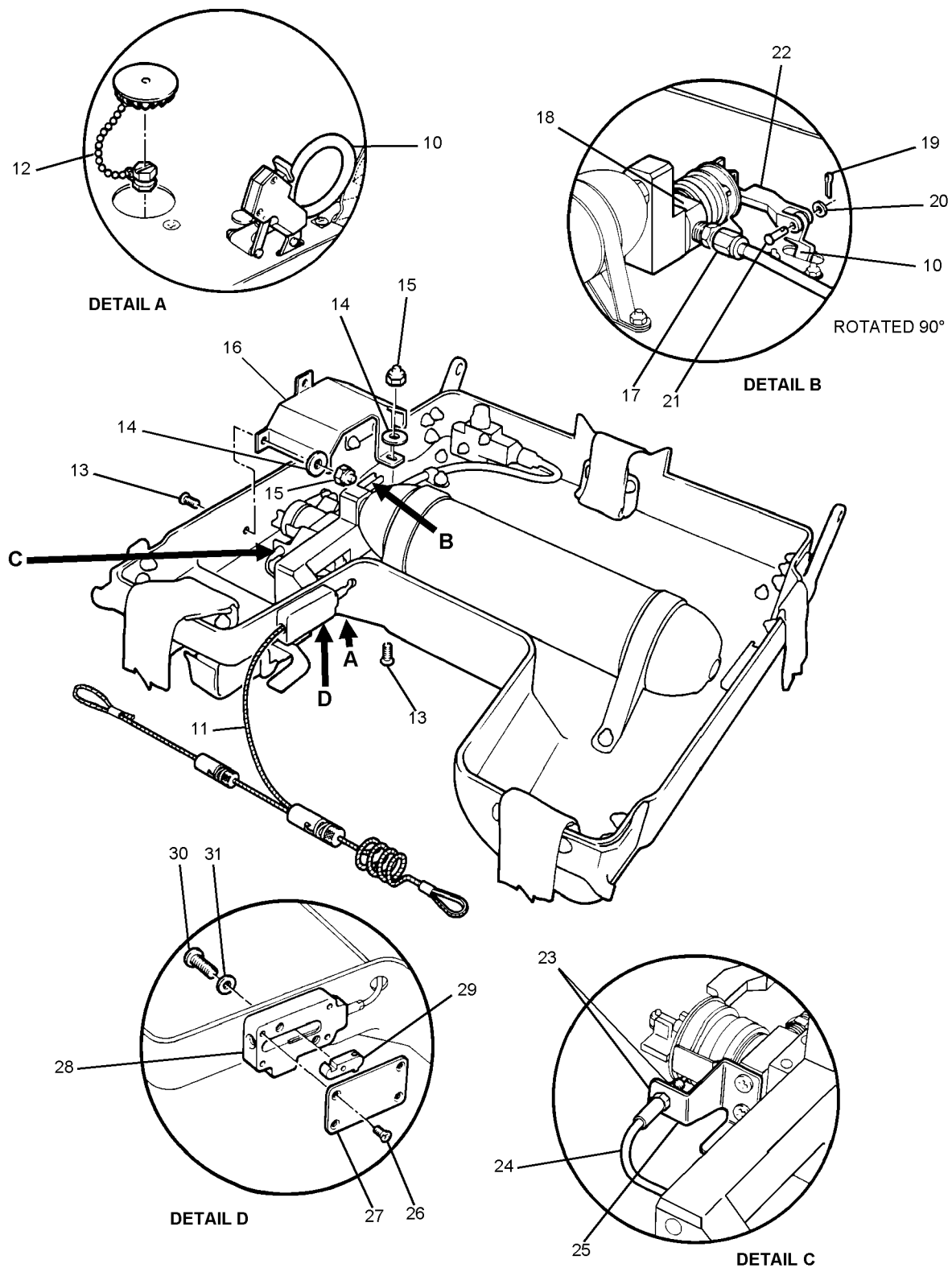
17. Remove conduit bracket (25) and cantilever spring (39).

18. Remove screw (41), washer (43) and cap nut (42) from clamp (44) securing low pressure tube assembly (47) to lid assembly.



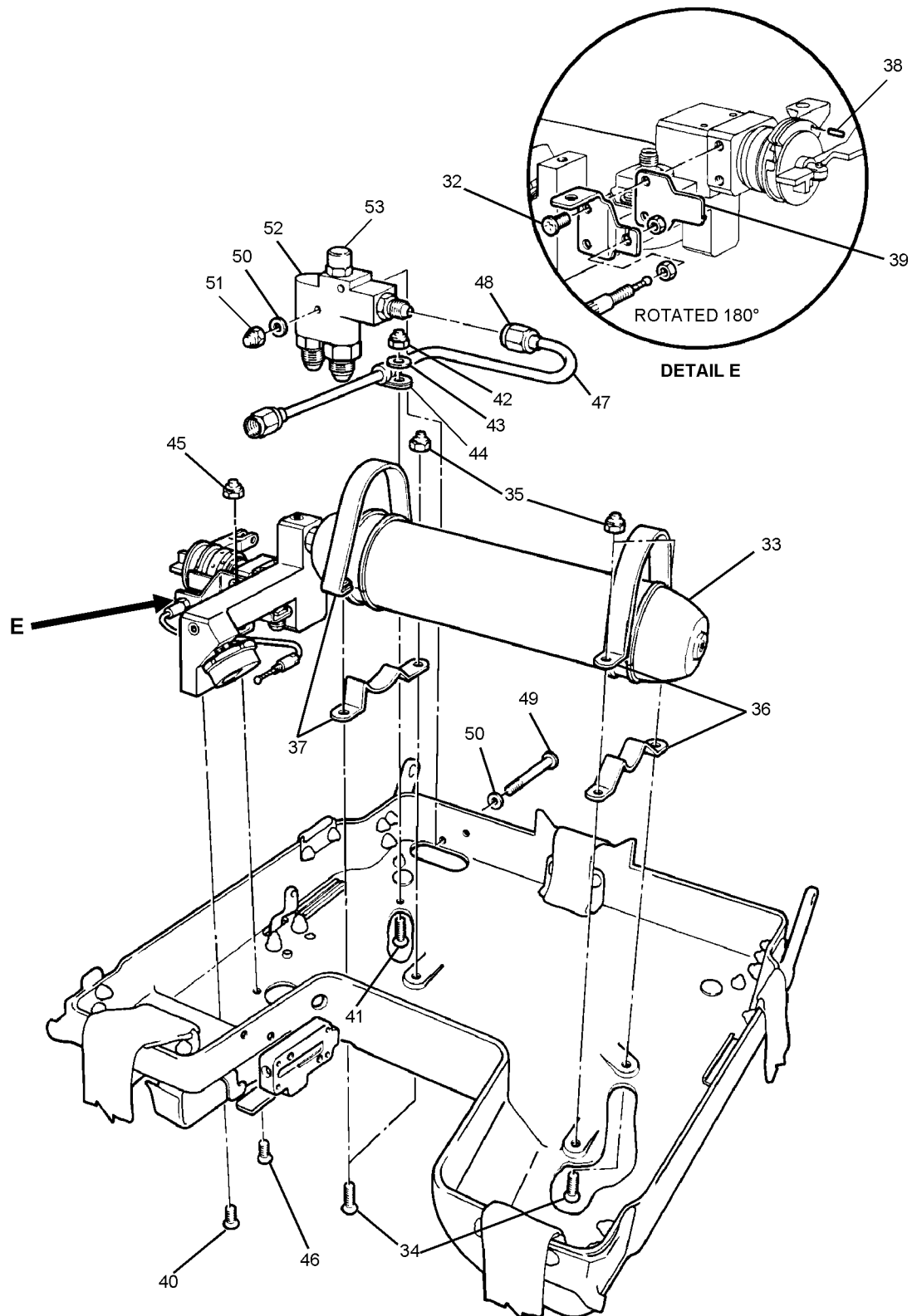
63-141

Figure 7-9. SKU-7/A Seat Survival Kit Components (Sheet 1 of 4)



63-142

Figure 7-9. SKU-7/A Seat Survival Kit Components (Sheet 2 of 4)



63-143

Figure 7-9. SKU-7/A Seat Survival Kit Components (Sheet 3 of 4)

- | | |
|--|---|
| 1. HOOK AND PILE FASTENER | 28. HOUSING, AUTOMATIC RELEASE ASSEMBLY |
| 2. COVER FLAP | 29. SLIDE, AUTOMATIC RELEASE ASSEMBLY |
| 3. FRONT CLOSURE FLAP | 30. SCREW |
| 4. FORWARD STRAP ASSEMBLY | 31. WASHER |
| 5. SIDE STRAP ASSEMBLY | 32. SCREW |
| 6. CLOSURE PINS | 33. EMERGENCY OXYGEN CYLINDER ASSEMBLY |
| 7. CONES, FRONT CLOSURE FLAP | 34. SCREW |
| 8. MANUAL DEPLOYMENT HANDLES | 35. CAPNUT |
| 9. AFT STRAP DOUBLE LUG ASSEMBLY | 36. CYLINDER CLAMP ASSEMBLY |
| 10. EMERGENCY OXYGEN MANUAL ACTUATION HANDLE | 37. CYLINDER CLAMP ASSEMBLY |
| 11. AUTOMATIC ACTUATING LANYARD | 38. SPRING PIN |
| 12. PLUG AND CAP ASSEMBLY | 39. CANTILEVER SPRING |
| 13. SCREW | 40. SCREW |
| 14. WASHER | 41. SCREW |
| 15. CAP NUT | 42. CAPNUT |
| 16. COVER | 43. WASHER |
| 17. NUT, LOW PRESSURE TUBE UNION | 44. CLAMP |
| 18. PRESSURE REDUCER ASSEMBLY | 45. CAPNUT |
| 19. COTTER PIN | 46. SCREW |
| 20. WASHER | 47. LOW PRESSURE TUBE ASSEMBLY |
| 21. PIN, STRAIGHT (THREADED) | 48. NUT, LOW PRESSURE TUBE UNION |
| 22. SEAR | 49. BOLT |
| 23. NUT, SPECIAL RETAINER | 50. WASHER |
| 24. CONDUIT, AUTOMATIC ACTUATION | 51. CAPNUT |
| 25. CONDUIT BRACKET | 52. LOW PRESSURE MANIFOLD |
| 26. SCREW | 53. RELIEF VALVE |
| 27. COVER, AUTOMATIC RELEASE ASSEMBLY | |

INDEX LEGEND

Figure 7-9. SKU-7/A Seat Survival Kit Components (Sheet 4 of 4)

19. Disconnect low pressure tube assembly union (48) and remove tube assembly (47).

20. Remove two attaching bolts (49), washers (50) and cap nuts (51) and remove low pressure manifold (52) from lid assembly.

7-62. CLEANING.

7-63. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.

7-64. SEAT CUSHIONS AND FABRIC COMPONENTS. Clean seat cushions and all fabric components as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16791 NIIN 00-282-9699
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

NOTE

If using cleaning compound (MIL-C-25769) combine one part compound with three parts water. If using general purpose detergent, follow the instructions on the container.

1. Prepare detergent or cleaning compound (MIL-C-25769) solution.

2. Apply solution to soiled area with spray or sponge.

3. Allow solution to remain on surface for a few minutes, then scrub with soft brush or cloth.

4. Rinse surface thoroughly with water; wipe with cloth or sponge.

5. Repeat [steps 1 thru 4](#) until material is clean.

6. Repeat [step 4](#) until material is free of all solution.

7. Allow material to dry thoroughly.

NOTE

If survival kit seat cushion cover can not be thoroughly cleaned using above instructions, replacement of cushion top cover panel is authorized on a one-time only basis for each seat cushion assembly. Refer to [paragraph 7-75](#) for replacement instructions.

7-65. INSPECTION.

7-66. SURVIVAL ITEMS. Inspect in accordance with NAVAIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

7-67. DISASSEMBLED PARTS. Inspect disassembled parts as detailed in [table 7-7](#).

7-68. REPAIR AND REPLACEMENT.

7-69. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

7-70. All individual components that fail to pass inspection shall be replaced except where repair procedure is indicated. Refer to source code listing (SM &R code) in the [Numerical Index](#) of the Illustrated Parts Breakdown to aid in determining replaceable components. All adjustable components and other assemblies that fail to pass respective tests and cannot be adjusted to meet required specifications shall be replaced.

Table 7-7. Inspection

Component	Task
Cushion Assembly (Figure 7-16)	Inspect fabric for wear, tears, stains, frayed edges, and loose or broken stitches.
	Inspect for deteriorated padding.
	Inspect for security of snap fasteners on front and rear of cushion.
	Check for wear or breakdown of cushion foam and replace as required.
Rucksack Assembly (Figure 7-16)	Inspect slide fastener for security of attachment and smooth operation.
	Inspect fabric for wear, tears, stains, frayed edges and loose or broken stitching.
	Ensure that hook and pile fasteners are firmly attached to rucksack assembly flaps.
	Check for presence and secure attachment of cones and eyelets.
	Inspect dropline assembly for wear, tears, stains, fraying, loose or broken stitches.
	Measure overall length of dropline. Overall length shall be 26 ft 4 in \pm 12 in.
	Inspect retaining lanyard for wear, tears, stains, fraying, loose or broken stitching.
AN/URT-33A Radio Beacon	Inspect in accordance with NAVAIR 16-30URT33-1.
Manual Deployment Handle Assembly (Figure 7-16)	Inspect handles for cuts and breaks.
	Inspect release pins for excessive burrs and secure attachment.
	Inspect cable for wear, fraying, loose or broken strands and secure swagings.
Harness Assembly (Figure 7-19)	Inspect webbing for stains, wear, tears, fraying and loose or broken stitches.
	Inspect harness adjusters and covers for cracks around attachment screws.
	Inspect harness adjusters for damage and wear, corrosion, scratches penetrating finish, loose attachment and weak release springs.
	Inspect adjuster release tabs for stains, wear and loose or broken stitches.
	Inspect release fittings for damage, wear, corrosion, loose attachment, weak springs and correct operation.
	Inspect rear fittings and other metal hardware for proper attachment.

Table 7-7. Inspection (Cont)

Component	Task
Strap Assemblies (Figure 7-19) (Note 1)	Inspect strap assemblies for stain, wear, tears, fraying and loose or broken stitches.
	Inspect strap fittings for wear, corrosion and scratches penetrating finish.
Radio Beacon Bracket (Figure 7-19)	Inspect for damage, worn, torn, frayed or loose hook and pile fastener and scratches penetrating finish.
Beacon Actuator Lanyard Assembly (Figure 7-16)	Inspect beacon lanyard for damage and security of swaged ends.
Cable-to-Lanyard Assembly and Lower Cable Assembly (Figure 7-16)	Inspect cable for fraying, broken strands and security of swaged balls.
	Inspect cable sleeve for wear, breaks and distortion.
Conduit Assembly (Figure 7-17)	Inspect cable for wear, fraying, and security of swaged balls.
	Inspect for dents.
	Inspect adjuster threads for damage.
	Ensure cable moves freely in conduit.
Oxygen Actuation Assembly (Figure 7-16)	Operate handle and ensure freedom of movement.
Housing, Automatic Release Assembly (Figure 7-17)	Inspect for damage around contour end of threads.
Lid Assembly (Figure 7-16)	Inspect for damage; dents, gouges and scratches penetrating finish.
Miscellaneous Hardware and Attaching Parts	Inspect threaded parts for damaged or stripped threads.
	Inspect nuts for rounded hexagon flats.
	Inspect washers and spacers for damage and elongated holes.
	Inspect self-locking bolts for damaged or worn locking devices (nylon pellets).
Low Pressure Manifold Assembly (Figure 7-17)	Inspect body parts and threads for damage.
	Inspect connectors for damaged threads and rounded hexagon flats.
	Inspect relief valve for damaged threads and rounded hexagon flats.
Emergency Oxygen Assembly (Figure 7-17)	Inspect cylinder for cracks, nicks, gouges, deep scratches, bulges or dents.
	Inspect filler valve for presence of valve cap, damaged threads and leakage around valve core.
	Inspect high pressure manifold parts and threads for damage.

Table 7-7. Inspection (Cont)

Component	Task
Emergency Oxygen Assembly (Figure 7-17) (Cont)	Inspect oxygen gage for cracked or missing glass, bent needle, legible dial, security, damaged threads and rounded corners on hexagon flats.
	Ensure integral filter present and secure in threaded shaft.
Pressure Reducer Assembly (Figure 7-18)	Inspect automatic actuation cam and sear cam for galling of contact surfaces (figure 7-12).
	Inspect reducer body for damage and threads on outlet fitting for damage.
	Inspect adjusting cap and lock ring (figure 7-12) for damaged adjusting holes and tamper dots for presence and integrity (figure 7-11).
Notes: 1. There are five strap assemblies, two side, two forward, and one aft.	

7-71. REPAIR AND REPLACEMENT OF SEAT CUSHION ASSEMBLY. Repair/replace the seat cushion as follows:

7-72. Removal.

1. Disconnect front snap fasteners by lifting at top edge and pulling away (Pull-the-Dot type snap fastener).

2. Disconnect aft snap fasteners by lifting at aft edge and pulling away (Pull-the-Dot type snap fastener).

3. Pull radio beacon antenna from fabric channel on underside of cushion and remove cushion from aircraft.

4. Inspect replacement cushion for damage, fraying and security of snap fasteners.

7-73. Repair. General repair of cushion assembly is limited to sewing loose or open seams, broken stitches and small rips and tears. Replacement of top cover panel of seat cushion is authorized one time only for

each seat cushion assembly in accordance with paragraph 7-75.

7-74. Installation.

1. Insert radio beacon antenna into fabric channel on underside of cushion.

2. Make sure antenna does not become dislodged from beacon and position cushion on lid assembly.

3. Engage front edge of aft snap fasteners and press down to engage. Lift gently to check proper connection.

4. Engage lower edge of front snap fasteners and press down to engage. Lift gently to check proper connection.

7-75. REPLACEMENT OF SEAT CUSHION COVER TOP PANEL. Replacement of seat cushion is authorized one time only for each seat cushion assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cloth, Type II, Class 1, Color USAF 1590 Sage Green	MIL-C-83429 NIIN 00-147-2064

1. Remove foam cushion from cushion cover assembly.

2. Turn cover inside out.



Take care not to damage gusset portion of seat cushion cover. If gusset is ripped, torn, or worn, a new cushion assembly must be procured.

3. Remove top panel portion of cover assembly by removing stitching. Retain gusset and bottom portion of cushion cover assembly, which should remain attached to each other.

4. Spread required amount of MIL-C-83429 cloth on flat surface. Using top panel of cover assembly as a template, trace around template $3/8 \pm 1/8$ inch from its edge to form pattern for new top panel.

5. Cut out new cushion cover top panel.

NOTE

Stitching used shall be ASTM-D-6193, Type 301 Lockstitch, with minimum backstitching of 1/2 inch, using 6 to 8 stitches per inch.

6. Ensure gusset and bottom portion of cushion cover is inside out. Sew new cushion cover top panel to gusset and attached bottom portion of cover assembly keeping seam 3/8 inch from edge.

7. Topstitch both top panel and gusset to prevent fraying. Topstitching will be visible when cushion cover assembly is turned right side out.

8. Reinstall cushion foam into cover assembly. Ensure cushion cover fits foam in same manner as original cover.

7-76. RADIO BEACON AN/URT-33A REPLACEMENT.

Replace the radio beacon as follows:

1. Unsnap left thigh cushion and fold back.
2. Remove radio beacon from bracket.
3. Place radio beacon slide switch in OFF position.
4. Remove flexible antenna from receptacle by pushing bayonet fitting in and rotating to the left (counterclockwise).
5. Forward beacon to appropriate level maintenance facility.
6. Obtain RFI beacon and inspect for damage.

NOTE

Refer to [paragraph 7-32](#) to determine if replacement beacon has been modified.

7. Refer to [paragraph 7-32](#) for rigging and packing procedures of beacon.

8. Reattach snap fastener of left thigh cushion.

7-77. REPLACEMENT OF RESTRAINT HARNESS LAPBELT ADJUSTER.

Replace restraint harness lapbelt adjuster as follows:

Materials Required

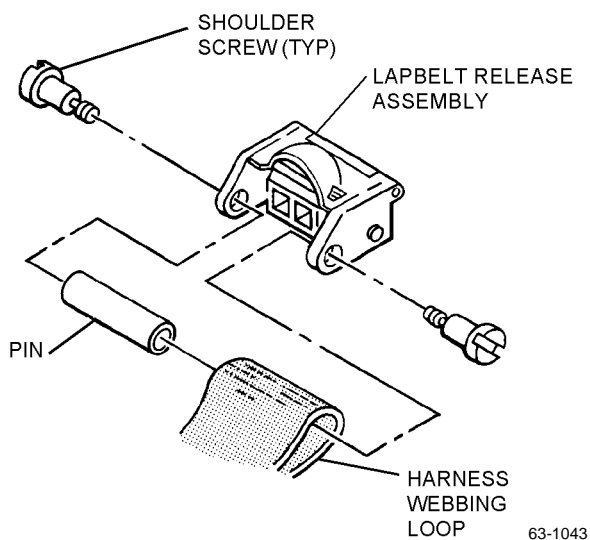
Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

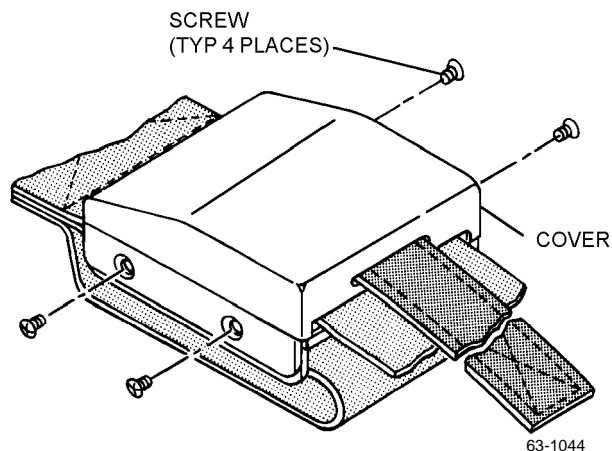
These replacement procedures may be used on either right or left side restraint harness assemblies.

1. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing and slide pin out of harness webbing loop. Retain all parts.



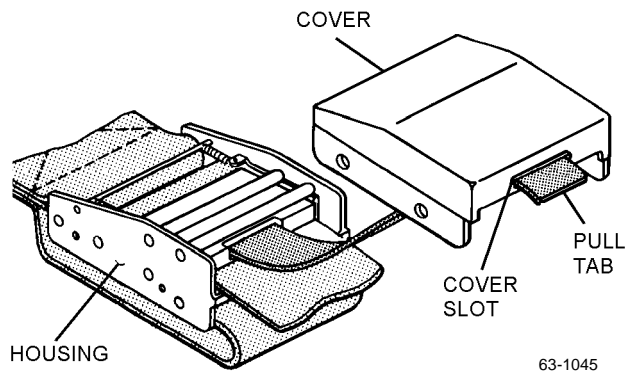
Step 1 - Para 7-77

a. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



Step 1a - Para 7-77

b. Remove cover from lapbelt adjuster housing and slide pull tab through cover slot.

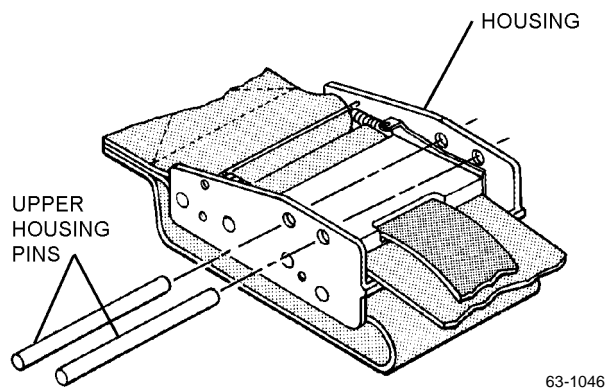


Step 1b - Para 7-77

c. Slide upper housing pins out of housing.

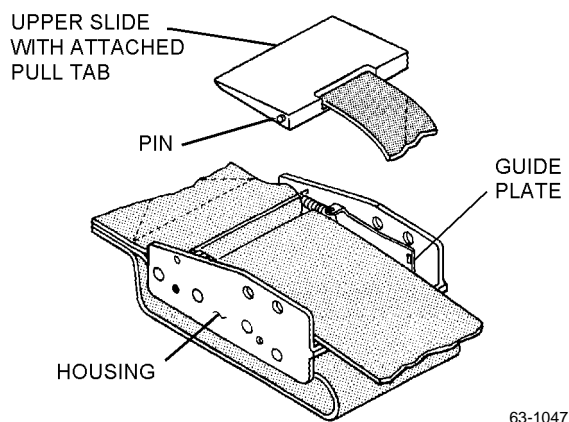
NOTE

Slide is held to guide plate by pins. Pull slide up so guide plates are above edge of housing and rotate slide out of guide plates.



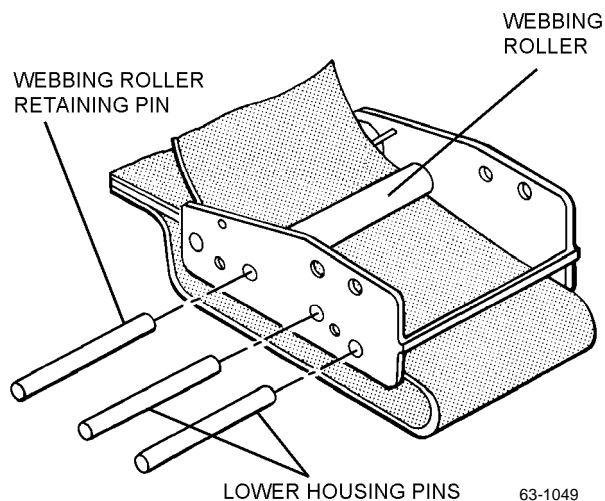
Step 1c - Para 7-77

d. Remove upper slide with attached pull tab.



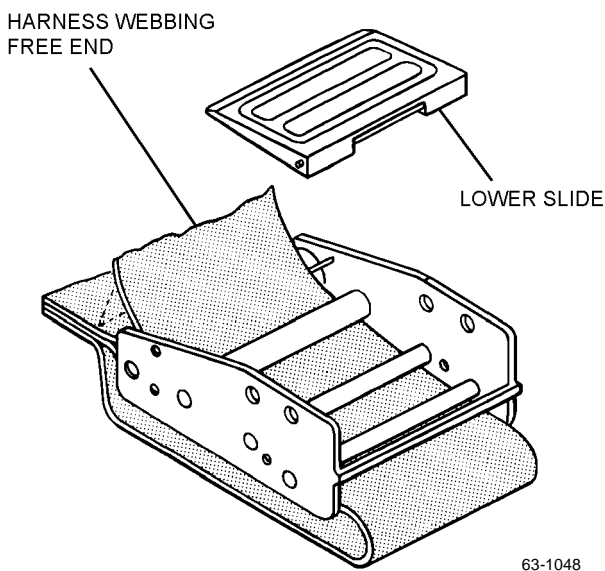
Step 1d - Para 7-77

f. Position guide plates up and out of the way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



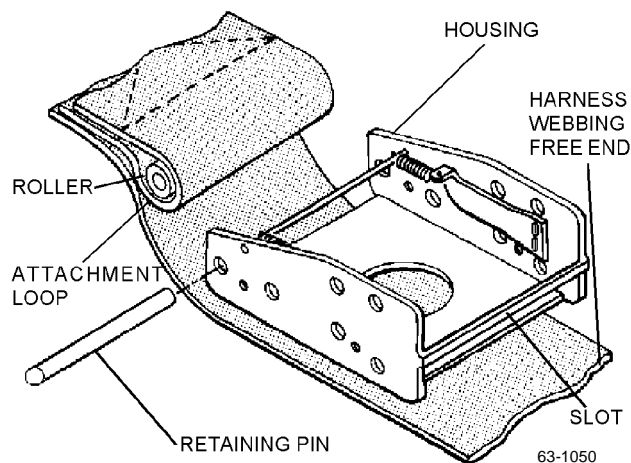
Step 1f - Para 7-77

e. Lift free end of harness webbing and remove lower slide.



Step 1e - Para 7-77

g. Pull free end of harness webbing through slot in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



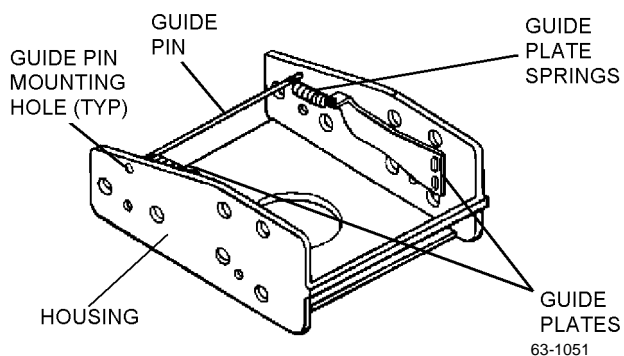
Step 1g - Para 7-77

2. Install lapbelt adjuster as follows:

NOTE

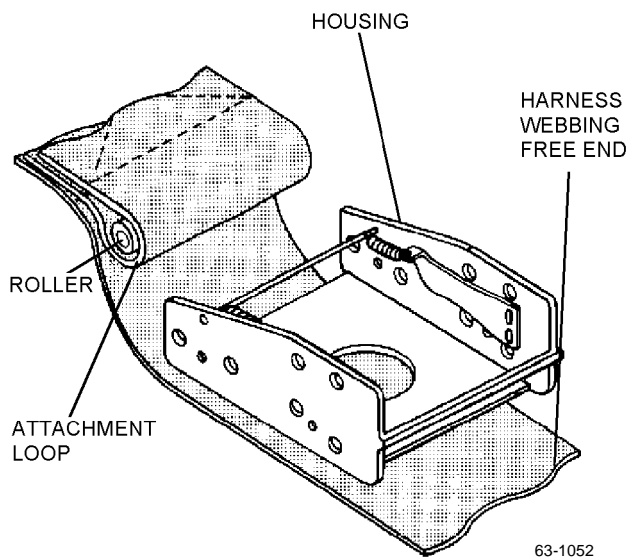
The six pins (two retaining and four housing) are interchangeable. The two rollers are interchangeable.

a. If required, slide guide plate springs onto guide pin and ensure guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



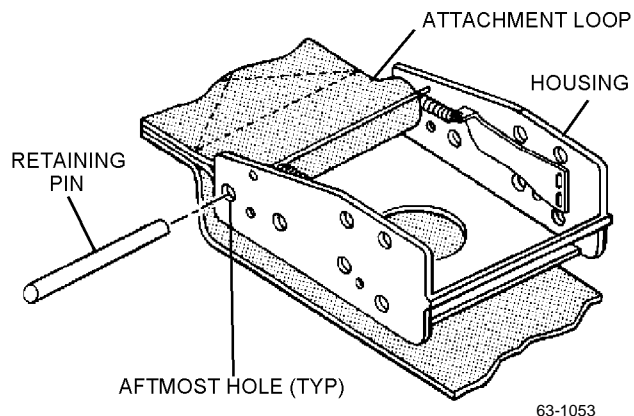
Step 2a - Para 7-77

b. Insert roller into attachment loop of harness webbing. Place adjuster housing onto free end of harness webbing so that aft end of housing faces attachment loop.



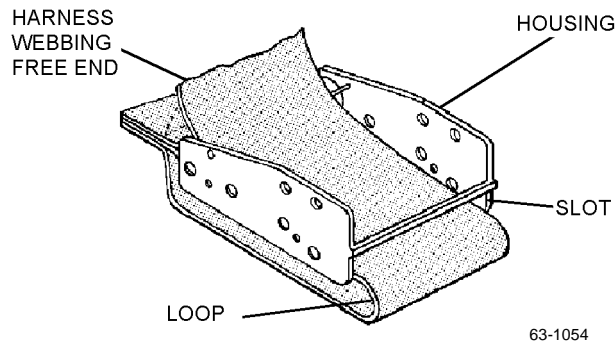
Step 2b - Para 7-77

c. Position housing onto attachment loop and roller. Align hole through roller with aftmost holes in housing and install retaining pin.



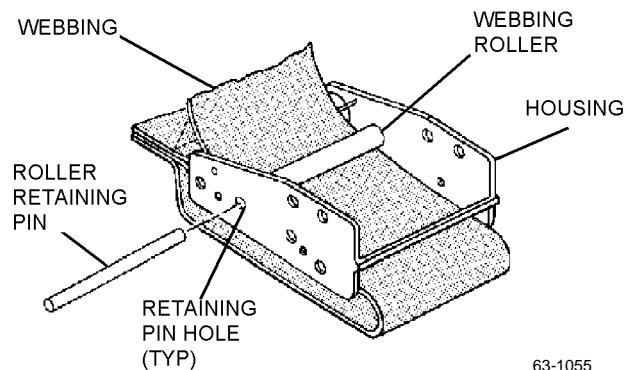
Step 2c - Para 7-77

d. Fold free end of webbing back towards housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.



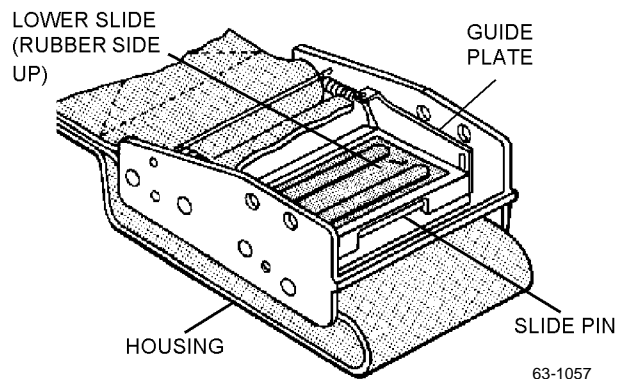
Step 2d - Para 7-77

e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing and insert roller retaining pin.



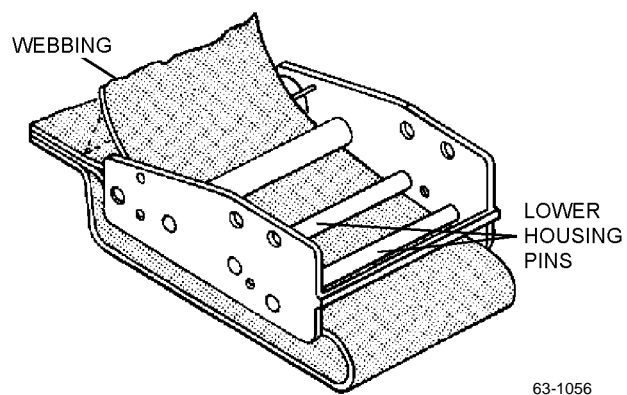
Step 2e - Para 7-77

g. Position guide plates into housing on top of lower housing pins. Install lower slide, rubber side up. Ensure that slide pin is correctly positioned into lower slot of guide plates.



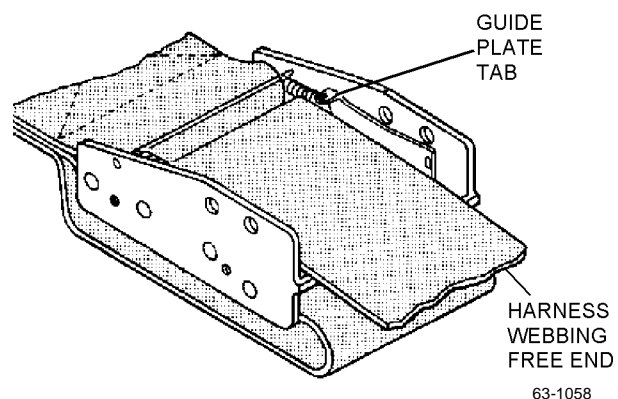
Step 2g - Para 7-77

f. Insert lower housing pins. Ensure that pins are resting on top of webbing.



Step 2f - Para 7-77

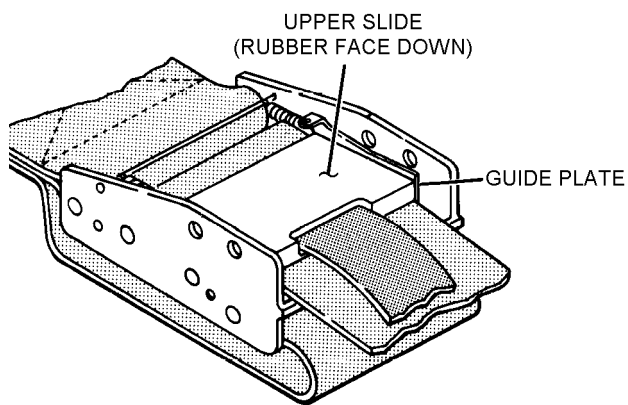
h. Position harness webbing free end under tabs of guide plates and lay webbing down over lower slide.



Step 2h - Para 7-77

NAVAIR 13-1-6.3-2

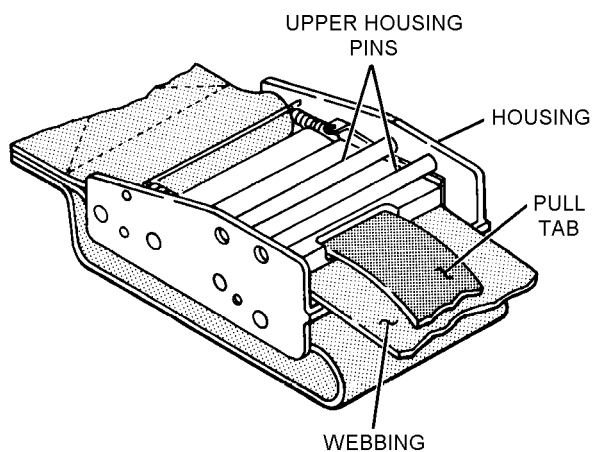
i. Install upper slide, rubber face down. Ensure that lower slide does not come out of place and that pins sit securely in slots of guide plates.



63-1059

Step 2i - Para 7-77

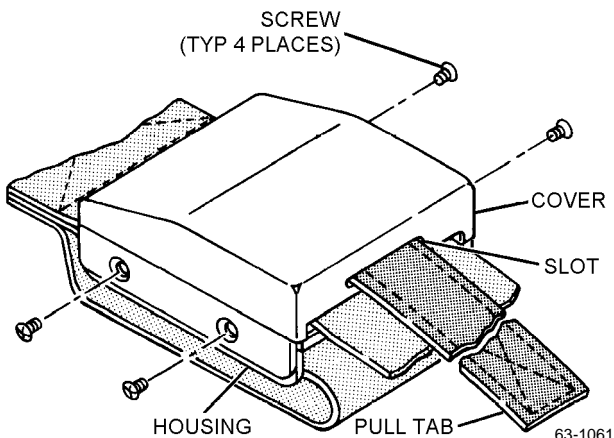
j. Install upper housing pins. Ensure slides operate correctly (pull on pull tab to check simultaneous movement of slides). Webbing shall slide with ease through adjuster in either direction.



63-1060

Step 2j - Para 7-77

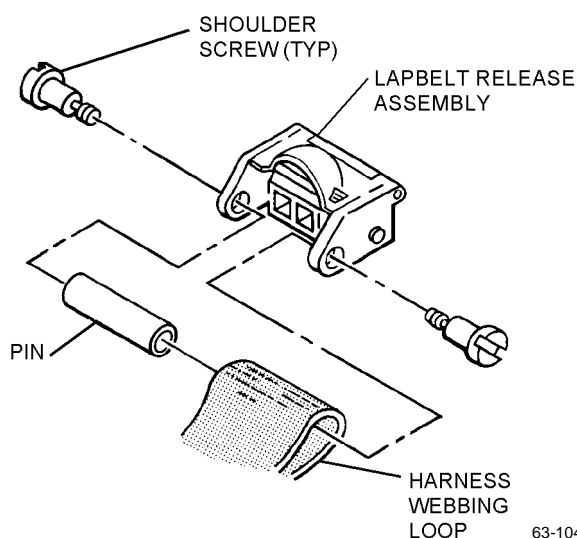
k. Insert pull tab from inside out through slot in cover. Place cover on housing and align four screw poles. Apply sealing compound to threads of attaching four screws and secure cover to housing.



63-1061

Step 2k - Para 7-77

3. Apply sealing compound to threads of two shoulder screws. Insert pin in webbing harness loop and position in lapbelt release assembly. Reinstall shoulder screws.



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Step 3 - Para 7-77

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

7-78. REPLACEMENT OF LAPBELT ASSEMBLIES. Refer to [figure 7-16](#) and replace either left (21) or right (22) adjustable harness assembly (lapbelt) as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

If item cannot be acquired from supply, repair of lapbelt in accordance with [paragraph 7-78A](#) is authorized for one time only. A second repair is not authorized. Repaired lapbelts shall be replaced with new assets upon availability from the supply system.

1. Remove Koch connector by removing two shoulder screws. Pull connector away from webbing and slide pin out of the harness webbing loop ([paragraph 7-77](#)). Retain all parts.

2. Remove cap nut (25, [figure 7-19](#)) and withdraw harness retention pin (26). Separate lapbelt from rear fitting (34). Remove retention roller (27) from the harness webbing loop. Retain all parts.

3. Remove two attaching screws (23) from footman bracket (24) and remove bracket from harness webbing loop. Retain all parts.

4. Install harness assembly (lapbelt) by installing retention roller (27) in harness webbing loop. Position harness loop and retention roller in rear fitting (34), insert retention pin (26) through rear fitting and retention roller and secure with cap nut (25).

5. Insert footman bracket (24) through the webbing loop on lapbelt harness and secure bracket on lid assembly with two attaching screws (23).

6. Apply sealing compound to threads of two shoulder screws. Insert pin in webbing harness loop, position in Koch connector, and reinstall shoulder screws ([paragraph 7-77](#)).

7-78A. REPAIR OF LAPBELT ASSEMBLIES.

If item cannot be acquired from supply, repair of lapbelt is authorized for one time only. No deviations from this repair shall be authorized without the express written consent of the survival kit engineering support activity, NAWCAD Patuxent River, Code 4621. A second repair is not authorized. Repaired lapbelts shall be replaced with new assets upon availability from the supply system. If new assets are unavailable from supply, repair lapbelt assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, Textile Treated, Type 13	MIL-W-4088 NIIN 00-260-4586
As Required	Thread, Nylon Bonded Finish, Type II, Class A, Size 3, Olive Drab	V-T-295 NIIN 00-559-5212

Support Equipment Required

Quantity	Description	Reference Number
As Required	Needle, Sewing Machine, Size 23 (Note 1)	—

Notes: 1. If using class 111 or 211 sewing machine.

NOTE

Repair of lapbelt assembly is for one time only. If lapbelt has been repaired, a second repair is not authorized. All stitching shall be ASTM-D-6193, Type 301 Lockstitch, 8 stitches per inch and backstitch 1 inch minimum.

1. Remove adjuster and release assembly from lapbelt in accordance with restraint harness lapbelt adjuster replacement procedures ([paragraph 7-77](#)).

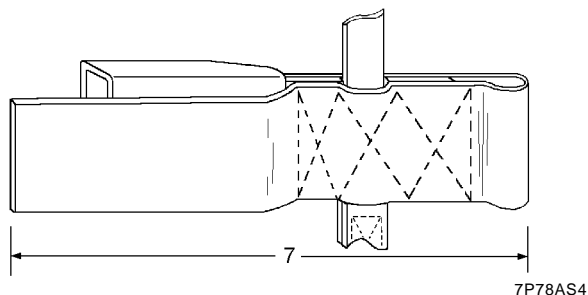
2. Lay out lapbelt on work bench with adjuster loops facing down toward work bench surface and webbing laying flat (RH lapbelt will have sticker clip facing toward technician, LH lapbelt will have sticker clip facing away from technician).

3. Measure 7 inches from the end of the rear fitting loop and place a mark. This mark should be past the folded sewn end of the lapbelt.

NOTE

Ensure no sharp edges are on the webbing after searing.

4. Sear cut the webbing at the 7 inch mark made in [step 3](#).



Step 4 - Para 7-78A

5. With webbing laying on the work bench as in step 2, measure 3 inches from the sear cut end and mark webbing.

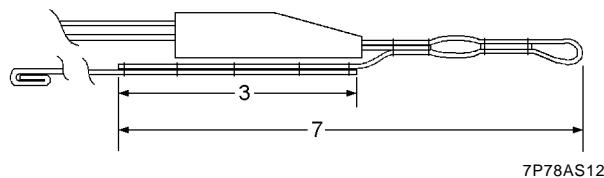
6. Cut a 26 1/4 inch length of Type 13, treated webbing.

NOTE

Ensure no sharp edges are on the webbing after searing.

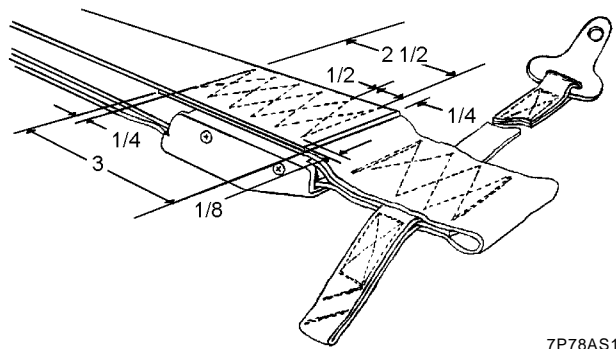
7. Sear both ends of the webbing.
8. Measure 3 inches from one end and mark the webbing across the entire width.
9. Measure 1/4 inch inward from mark made in [step 8](#) and make a small mark at the edge of the webbing.
10. Measure 1/2 inch inward from mark made in [step 9](#) and place another small mark at the edge of the webbing. Repeat until 5 marks are made, each 1/2 inch apart. Last mark should be 1/4 inch from the sheared edge of the webbing.
11. Mark opposite side of the webbing directly across from the marks made in [step 10](#).

12. Place the 3 inch section of marked webbing over top of webbing marked in [step 5](#). Ensure that 3 inch mark made in [step 8](#) and webbing edge align.



Step 12 - Para 7-78A

13. Starting 1/8 inch from the outside edge furthest away from the adjuster attaching loop, sew a 6 point cross-stitch pattern 1/8 inch from the edges of the webbing using the 5 marks made in [step 10](#) as a guide. Cross-stitch points should be 1/2 inch from adjacent points.

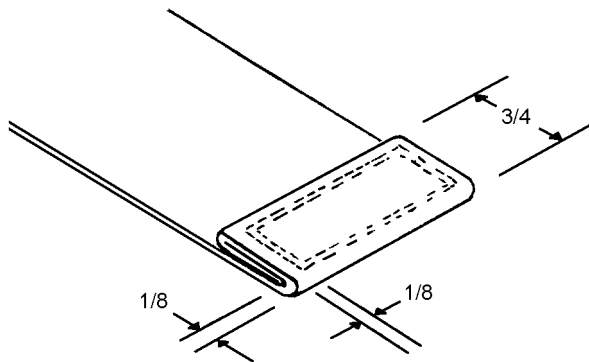


Step 13 - Para 7-78A

14. Measure in 1 1/2 inches from the other seared end of the webbing and mark webbing.

15. Double fold end of webbing marked in [step 12](#), making a 3/4 inch fold on webbing end. Double fold shall be located on the same side of webbing as the lapbelt adjusting attaching loop.

16. Sew 2 rows of stitches in the double fold using box stitch pattern 1/8 inch from edges.



Step 16 - Para 7-78A

7P78AS16

17. Reinstall lapbelt adjuster and release assembly in accordance with respective lapbelt adjuster replacement procedures using retained hardware (paragraph 7-77).

18. Quality Assurance Representative shall inspect webbing for stitching, adjuster for smoothness of operation, and proper installation of lapbelt assembly.

19. Reinstall repaired lapbelt assembly(s) onto survival kit rear fitting(s) and ensure kit is RFI.

20. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

7-79. REPLACEMENT OF FORWARD STRAP ASSEMBLY. To replace the right or left forward strap assembly, refer to items 1 and 2, [figure 7-19](#), and proceed as follows:

1. Remove three attaching screws (3) and cap nuts (4) and remove forward strap from lid assembly.
2. Install forward strap assembly on lid assembly using three screws (3) and new cap nuts (4).

7-80. REPLACEMENT OF SIDE STRAP ASSEMBLIES. To replace the right or left side strap assembly, refer to item 9, [figure 7-19](#), and proceed as follows:

1. Remove two attaching cap nuts (10) and screws (11) and remove the side strap from lid assembly.
2. Ensure that folded over and seared edges of side strap assembly face toward the rucksack. Then install side strap on lid assembly using two attaching screws (11) and new cap nuts (10).

7-81. REPLACEMENT OF THE AFT STRAP ASSEMBLY. To replace aft strap assembly, refer to item 5, [figure 7-19](#), and proceed as follows:

1. Remove aft strap assembly from lid assembly by removing two attaching cap nuts (6), screws (7) and washers (8).

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2. Ensure folded over and seared edges of aft strap assembly face toward rucksack. Then install aft strap assembly on lid assembly using two attaching screws (7), washers (8) (installed under head of screws), and new cap nuts (6).

7-82. REPLACEMENT OF REAR FITTING ASSEMBLY. To replace either left or right rear fitting assembly refer to item 34, [figure 7-19](#), and proceed as follows:

1. Remove lapbelt assembly ([paragraph 7-78](#)).
2. Remove rear fitting from lid assembly by removing attaching cap nut (37), washer (38), anti-chafe washer (36), and rear attachment pin (35).
3. Install rear fitting on lid assembly using rear attachment pin (35) with anti-chafe washer (36) installed under head of pin, washer (38), and new cap nut (37).
4. Reinstall lapbelt assembly ([paragraph 7-78](#)).

7-83. REPLACEMENT OF REAR ATTACHMENT FITTING ASSEMBLY. To replace either left or right rear attachment fitting assembly refer to item 39, [figure 7-19](#), and proceed as follows:

1. Remove lapbelt assembly ([paragraph 7-78](#)).
2. Remove the rear fitting assembly ([paragraph 7-82](#)).
3. Remove two attaching cap nuts (40), four washers (42), and two screws (41) securing fitting (39) to side of lid assembly.
4. Remove attaching cap nut (43), two washers (45) and screw (44) securing fitting to top of lid assembly and remove rear attachment fitting (39) from lid.
5. Install rear attachment fitting (39) to side of lid assembly using two attaching screws (41), four washers (42) (one washer under each screw head and one under each cap nut), and two new cap nuts (40).
6. Secure top of rear attachment fitting (39) to lid assembly using attaching screw (44), two washers (45) (one under head of screw and one washer under cap nut), and new cap nut (43).
7. Reinstall rear fitting (34) ([paragraph 7-82](#)).

8. Reinstall lapbelt assembly (21 or 22) ([paragraph 7-78](#)).

7-84. REPLACEMENT OF EMERGENCY OXYGEN ACTUATION HANDLE ASSEMBLY. To replace emergency oxygen actuation handle assembly, proceed as follows:

1. Remove handle assembly (12, [figure 7-19](#)) from lid assembly by removing two attaching cap nuts (13), four washers (15) and screws (14). Remove cotter pin (45, [figure 7-17](#)), washer (44), and pin (43). Discard cotter pin (45).
2. Install handle assembly (12, [figure 7-19](#)) on lid assembly using two attaching screws (14), four washers (15) (one under each screw head and one under each cap nut), and two new cap nuts (13). Install pin (43, [figure 7-17](#)), washer (44), and new cotter pin (45). Bend cotter pin ends outward to 90° angle.

7-85. REPLACEMENT OF STUD AND EYELET ASSEMBLY. Refer to [figure 7-19](#) and replace stud and eyelet assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove screw (19), washer (20), stud (17) and eyelet (18) from lid assembly and discard all damaged items.

2. Apply sealing compound to threads of screw (19). Install eyelet (18) and stud (17) on lid assembly and secure with washer (20) and screw (19).

7-86. REPLACEMENT OF PIVOT FITTING ASSEMBLY. To replace either right or left pivot fittings refer to [figure 7-19](#) and proceed as follows:

1. Remove two attaching cap nuts (53), four washers (55), and two screws (54) from front of pivot fitting (51, 52). Then from side of fitting remove two attaching cap nuts (53), two washers (55), installed shims (57, 58, and 59, as applicable), and two screws (56).

NOTE

When removing pivot fittings, note number and size of shims installed between fitting and lid assembly.

2. Install pivot fitting assembly (51, 52) on side of lid assembly by installing two attaching screws (56), shims (57, 58, and 59) between fitting and lid in same quantity and size removed (as applicable), two washers (55), and two new cap nuts (53).

NOTE

Shims (57, 58 and 59) shall be installed in equal numbers under each pivot fitting as required to ensure the overall width of the kit lid is 16.71 inches (figure 7-10).

3. Secure the front of fitting by installing two attaching screws (54), four washers (55) (one under head of each screw and one under each cap nut), and two new cap nuts (53).

7-87. REPLACEMENT OF THE RADIO BEACON BRACKET. To replace radio beacon bracket, refer to figure 7-19 (item 46) and proceed as follows:

1. Remove and discard rubber pads (49) from bracket (46). Drill out four rivets (47) securing the bracket to the kit lid. Discard rivets (47) and washers (48).

2. To install radio beacon bracket, position bracket on lid assembly over drilled rivet holes. Install four rivets (47) with one washer (48) under the head of each rivet to secure the bracket to lid assembly.

3. Using a suitable impact adhesive apply two new rubber pads (49) in bottom of bracket to cushion radio beacon.

7-88. REPLACEMENT OF PRESSURE REDUCER. To replace the pressure reducer assembly refer to item 1, figure 7-18, and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

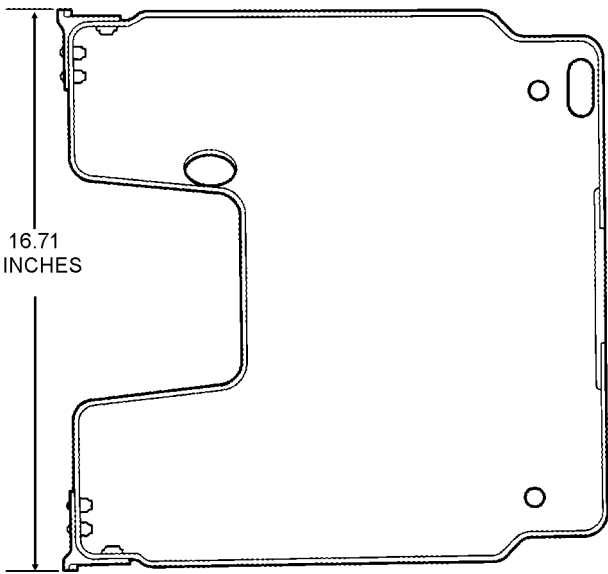
Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly from lid assembly in accordance with paragraph 7-61. Remove two threaded pins (2) from high pressure manifold (6) and separate pressure reducer (1) from manifold.

NOTE

Do not disassemble the pressure reducer.

2. Install pressure reducer assembly (1) in high pressure manifold (6). Apply sealing compound to threads of two attaching pins (2) and secure pressure reducer assembly.



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Figure 7-10. SKU-7/A Lid Assembly Overall Width

NOTE

Use any contrasting color when applying tamper dots to attaching pins.

3. Apply tamper dots on two attaching pins using sealant MIL-S-22473 (figure 7-11).

4. Reinstall emergency oxygen assembly on lid assembly (paragraph 7-95).

7-89. REPLACEMENT OF EMERGENCY OXYGEN CYLINDER ASSEMBLY. To replace oxygen cylinder assembly refer to item 3, figure 7-18 and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Krytox 240 AZ	MIL-G-27617 NIIN 01-007-4384
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly in accordance with paragraph 7-61.

2. Remove oxygen cylinder (3) from high pressure manifold (6). Remove and discard O-ring (5) from nipple union (4). Remove nipple union from oxygen cylinder. Remove any residual anti-seize tape attached to the threads of the nipple union. Clean threads using lint-free cloth moistened with water.

3. To install oxygen cylinder assembly, apply anti-seize tape to a maximum of 1 1/2 turns to both threaded ends of nipple union (4). Ensure that tape has no loose ends and is started one complete thread from ends of nipple union.

4. Lightly lubricate contact surfaces of new O-ring (5) with Krytox 240 AZ and install on nipple

union. Install nipple union on manifold (6) and torque to a maximum of 125 inch-pounds.

5. Install oxygen cylinder on taper thread of nipple union while restraining the nipple union with a spanner. Torque cylinder onto nipple union to a maximum of 125 inch-pounds. Ensure that not more than four threads are showing between nipple union and bottle end cap.

NOTE

Use any contrasting color when applying tamper dot.

6. Apply tamper dot using sealant MIL-S-22473 (figure 7-11).

7. Reinstall emergency oxygen assembly on lid assembly (paragraph 7-95).

7-90. REPLACEMENT OF OXYGEN GAGE ASSEMBLY. To replace oxygen gage assembly refer to figure 7-18, and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly from lid assembly (paragraph 7-61). Remove oxygen pressure gage (7) from high pressure manifold (6).

2. To install oxygen pressure gage (7), ensure that all foreign matter is removed from threads of gage using lint-free cloth moistened with water. Apply anti-seize tape to threads a maximum of 1 1/2 turns. Ensure that there are no loose ends and that tape starts one complete thread from beginning of gage thread.

3. Install gage (7) in manifold (6) and torque to a maximum of 125 inch-pounds.

NOTE

Use any contrasting color when applying tamper dot.

- 4. Apply tamper dot using sealant MIL-S-22473 (figure 7-11).
- 5. Reinstall emergency oxygen assembly (paragraph 7-95).

7-91. REPLACEMENT OF OXYGEN FILLER VALVE ASSEMBLY. To replace oxygen filler valve assembly refer to item 11, figure 7-18 and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

- 1. Remove emergency oxygen assembly (paragraph 7-61).
- 2. Remove attaching screw (9) and washer (10), and filler valve retaining bracket (8).
- 3. Remove filler valve (11) from high pressure manifold (6), and remove filter (13).
- 4. To install filler valve, ensure all foreign matter is removed from threads using lint-free cloth moistened with water. Apply anti-seize tape to threads of filler valve to a maximum of 1 1/2 turns. Ensure that there are no loose ends and that tape starts one complete thread from beginning of filler valve thread.



Filter must not be installed when using alternate Fill Valve P/N 9120097-27.

- 5. Install filter (13) in high pressure manifold
- (6). Install filler valve (11) in manifold and torque to a maximum of 125 inch-pounds.
- 6. Apply sealing compound to threads of screw (9). Position retaining bracket (8) over filler valve and secure with washer (10) and screw (9).

NOTE

Use any contrasting color when applying tamper dot.

- 7. Apply tamper dot using sealant, MIL-S-22473 (figure 7-11).
- 8. Reinstall emergency oxygen assembly (paragraph 7-95).

7-92. OXYGEN FILLER VALVE CORE REPLACEMENT. Remove seat survival kit from aircraft in accordance with applicable maintenance manual.



If necessary to release oxygen pressure, pull emergency oxygen lanyard. This releases oxygen through pressure reducer manifold. Do not release pressure through filler valve or adapter. High pressure oxygen moving through restriction of filler valve causes heat and could result in fire or explosion.

NOTE

Replacement of valve core procedures are not applicable if using alternate Fill Valve P/N 9120097-27.

- 1. Release oxygen pressure by pulling emergency oxygen actuating lanyard.
- 2. Remove survival kit seat cushion (paragraph 7-72).
- 3. Remove plug and cap assembly (1, figure 7-17).
- 4. Remove valve core using extractor tool.

WARNING

Valve cores used with high pressure oxygen systems are specially oxygen cleaned and packaged. Ensure package has not been damaged and valve core has not been contaminated.

5. Install valve core using extractor tool.
6. Fill emergency oxygen cylinder to 1800 to 2000 psi (paragraph 7-52).
7. Install plug and cap assembly (1, figure 7-17).
8. Install survival kit seat cushion (paragraph 7-74).
9. Reinstall seat survival kit in aircraft in accordance with applicable maintenance manual.

7-93. REPLACEMENT OF THE RUCKSACK SLIDE FASTENER. Replace rucksack slide fastener (5, figure 7-16) as follows:

Materials Required

Quantity	Description	Reference Number
1	Fastener, Slide, Interlocking, Type I, Style 3, Size M	V-F-106
As Required	Thread, Nylon, Size E	V-T-295

1. Remove slide fastener by carefully cutting thread securing slide fastener to the rucksack. Remove and discard old slide fastener.
2. Remove all of the old thread from the stitching pattern.

NOTE

Install slide fastener so that it opens by moving slide fastener from left to right.

3. Following existing stitching pattern, stitch slide fastener to rucksack using size E nylon thread.
4. After completion of installation, operate the slide fastener to ensure smooth operation.

7-94. ASSEMBLY.

7-95. ASSEMBLY AND INSTALLATION OF EMERGENCY OXYGEN ASSEMBLY. To assemble and install emergency oxygen assembly on lid assembly, refer to figure 7-9 and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3883 (Note 1)

Notes: 1. Use any contrasting color.

1. Apply sealing compound to threads of two attaching screws (32). Install conduit bracket (25), cantilever spring (39) and attaching screws (32) on reducer assembly (18). Ensure cantilever spring is installed with bend facing toward and applying pressure on reducer sear cam.

2. Ensure cantilever spring is properly installed by rotating sear (22) and reducer auto actuation cam. The cantilever spring should bend outward. Rotate cam to the ON position with lever parallel to the sear and facing away from the cantilever spring.

3. Apply sealing compound to threads of long nipple of conduit assembly (24). Install one retaining nut (23) and position it approximately midpoint on long nipple, insert nipple into conduit bracket (25) and install second nut (23), hand tight only.

4. Install the auto actuation cable into slot in reducer automatic actuation cam. Install spring pin (38) to retain cable.

5. Position emergency oxygen assembly (33) in lid assembly so auto actuation conduit protrudes through access hole in automatic release housing (28). Apply sealing compound to threads of conduit nipple and install housing (28) on automatic actuation conduit (24).

6. Loosely install cylinder clamp assemblies (36 and 37) as follows:

a. Install clamp with clip nut at reducer end of cylinder.

b. Clamp with uneven length legs installed at opposite end; longer leg toward front of kit.

7. Apply sealing compound to threads of one attaching screw (40) and install through lid into base of high pressure manifold. Tighten screw.

8. Install screw (46) and cap nut (45) to secure conduit bracket (25) to lid assembly.

9. Tighten cylinder clamp screws (34) and cap nuts (35).

10. Install low pressure manifold (52) on lid assembly using two attaching bolts (49), washers (50) and cap nuts (51).

NOTE

Use any contrasting color when applying tamper dots to connecting unions.

11. Install low pressure tube assembly (47) on reducer (18) and low pressure manifold (52). Torque connecting union nuts (17 and 48) to no more than 125 inch-pounds. Apply tamper dots to connecting unions using sealant (figure 7-11).

12. Install straight pin (21), washer (20), and cotter pin (19) to attach sear (22) to emergency oxygen handle (10).

13. Secure tube assembly (47) to lid assembly using clamp (44), screw (41), washer (43) and cap nut (42). If tube assembly requires slight bending to install, make only large radius bends. Do not crease or kink tube.

14. Apply sealing compound to threads of two attaching screws (30), and install automatic release housing (28) on lid assembly using two washers (31) and screws (30).

15. Rotate automatic actuation cam to the ON position, insert actuation cable ball in slide (29) and insert slide in housing (28).

16. Ensure cable is properly positioned in slide (29). Move slide back and forth in its track to ensure that cable moves freely in conduit assembly (24).

17. Apply sealing compound to threads of four attaching screws (26) and install cover (27) on release assembly housing (28).

18. Secure automatic actuation conduit (24) to bracket (25) by tightening two retaining nuts (23).

NOTE

Use any contrasting color when applying tamper dots to retaining nuts.

19. Ensure that slide (29) moves to full forward position before automatic actuation cable (24) becomes taut. If necessary, adjust two retaining nuts (23) to obtain proper slide position. Apply tamper dots to retaining nuts using sealant (figure 7-11).

20. Using a suitable pin punch, move slide (29) to its forward position.

21. Insert the ball of cable-to-lanyard assembly (11) into slide (29). Rotate reducer cam to the OFF position. If necessary reset manual actuation handle (10) to the OFF position.

22. Pull lanyard assembly (11) and ensure that automatic actuation cam is tripped to the ON position and that lanyard (11) releases from slide (29).

23. Insert the ball of cable-to-lanyard assembly (11) into slide (29) and reset manual actuation handle (10) to the OFF position.

24. Apply a light pull on the cable to ensure that lanyard is retained by slide (29).

25. Reinstall cover (16) to lid assembly using four attaching screws (13), washers (14) and cap nuts (15).

26. Purge and charge emergency oxygen system in accordance with paragraph 7-52.

27. Perform Functional Check in accordance with paragraph 7-51.

28. Adjust as necessary (paragraph 7-96).

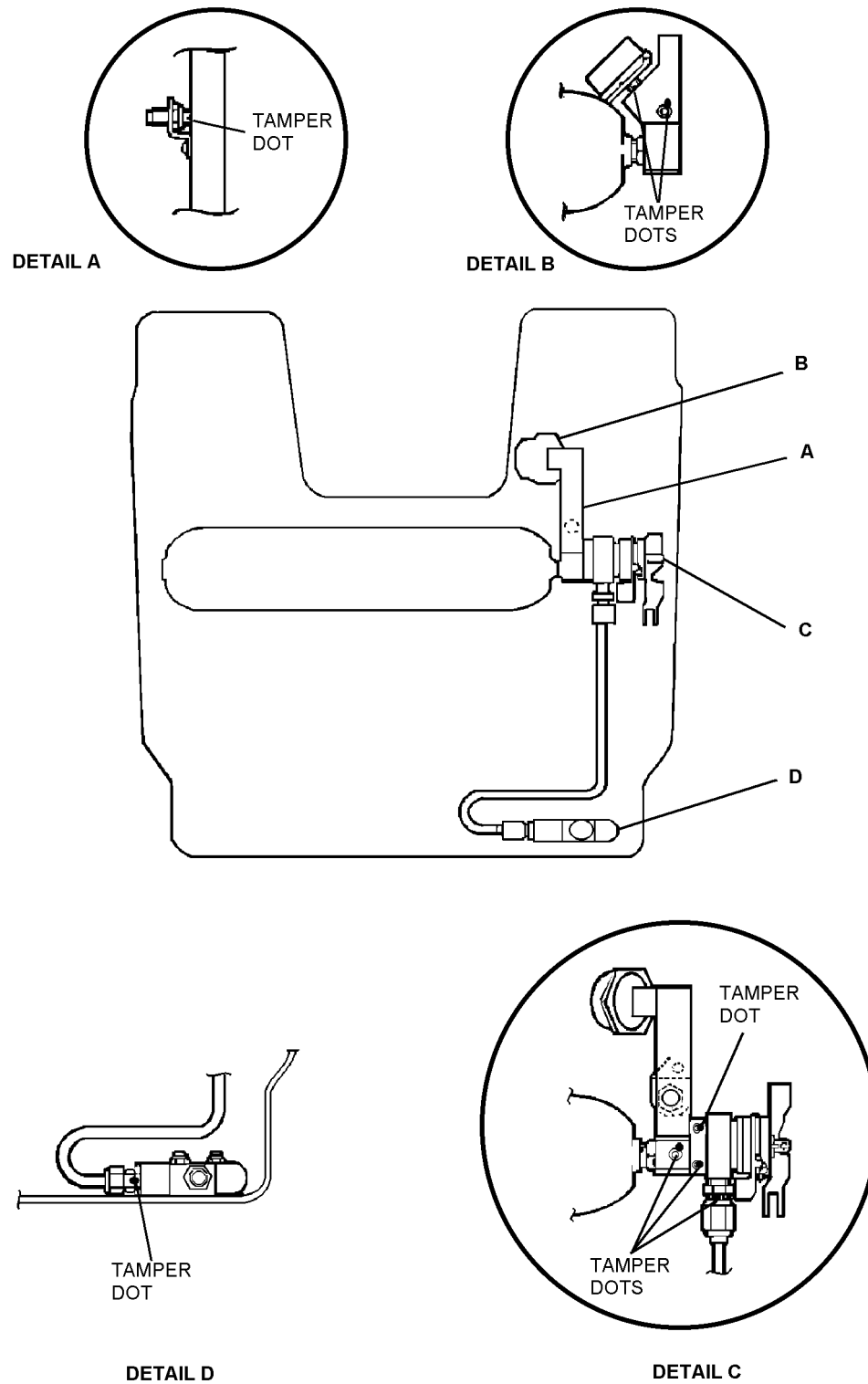
7-96. ADJUSTMENTS.

7-97. PRESSURE REDUCER. To adjust flow rates and outlet pressures on pressure reducer assembly, refer to figure 7-12 and proceed as follows:

Support Equipment Required

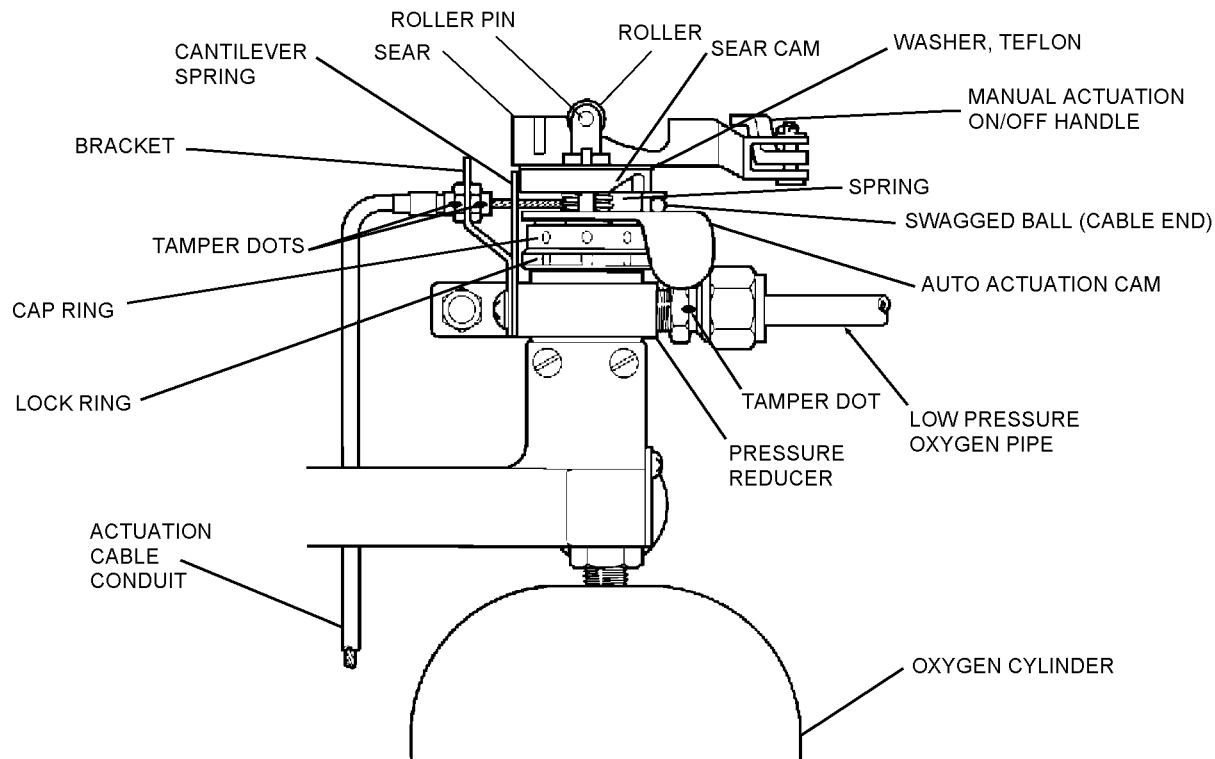
Quantity	Description	Reference Number
1	Tool Set, Wrench, Spanner	T361D907-11 (CAGE 30941) NIIN 01-419-9842

1. Loosen lock ring.



63-147

Figure 7-11. Location of Tamper Dots



63-148

Figure 7-12. Pressure Reducer

2. Turn adjusting cap counter-clockwise to decrease pressure and clockwise to increase pressure.
3. Tighten lock ring.
4. Perform Functional Check ([paragraph 7-51](#)).

3. When slack has been removed from actuation cable, turn special nut (23) on inside of bracket (25) clockwise to tighten it against bracket (25) and secure conduit (22).

NOTE

Use any contrasting color when applying tamper dots.

7-98. EMERGENCY OXYGEN AUTOMATIC RELEASE ASSEMBLY. To adjust emergency oxygen automatic release assembly, proceed as follows:

1. To tighten cable, loosen special nut (23, [figure 7-17](#)) located on threaded end of conduit (22) inside of bracket (25). Turn nut (23) counterclockwise to loosen, but do not remove from conduit.
2. Turn special nut (23) on the outside of bracket (25) counterclockwise to remove slack from actuation cable.

4. Apply tamper dots to special nuts (23), bracket (25), and threaded end of conduit (22) ([figure 7-11](#)) using sealant.

5. Inspect cable to ensure all slack has been removed.

Section 7-7. Fabrication

7-99. GENERAL.

7-100. This section contains instructions for fabrication of tools and components which can be manufactured by local maintenance activities.

7-101. ACTUATING LANYARD, AN/URT-33A RADIO BEACON. This lanyard may be fabricated by modifying actuating lanyard P/N 12227-1, 325C365-1, or MBEU130145 as follows:

Materials Required

Quantity	Description	Reference Number
1	Swaging Sleeve	MS51844-61 NIIN 00-127-9488
1	Lanyard, Actuating or Lanyard, Actuating	P/N 12227-1 NIIN 01-170-8367 325C365-1 (MBEU130145)
As Required	Cord, Nylon, Type III	MIL-C-5040

Support Equipment Required

Quantity	Description	Reference Number
1	Crimping Tool	MIL-C-22520

1. Remove roll pin from actuator plug housing and separate housing, actuator plug, and swaged ball and lanyard. Discard pin and actuator plug (figure 7-13).

2. Cut lanyard cable directly behind swaged ball installed on end of cable and discard swaged ball.

NOTE

Total length of lanyard cable and bayonet connector should be 5 1/4 (±1/16) inches.

3. Insert cable through swaging sleeve and route cable end back into swaging sleeve to form 1/2-inch loop (figure 7-14).

4. Ensure cable end is flush with swaging sleeve and crimp sleeve securely to cable using crimping tool.

NOTE

Total length of finished modified cable (without hairpin cotter attached) should be 4 1/4 (±1/16) inches.

5. Perform pull test to check security of swaged sleeve as follows:

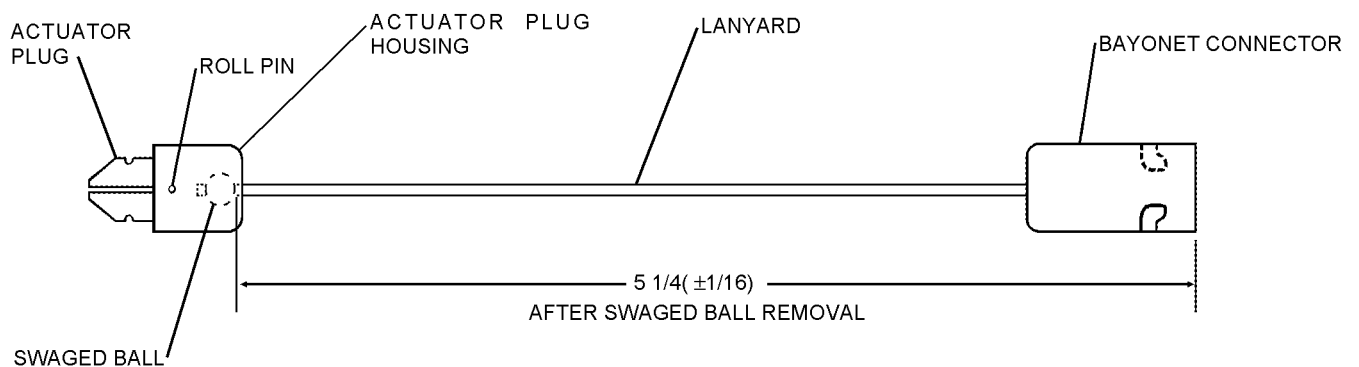
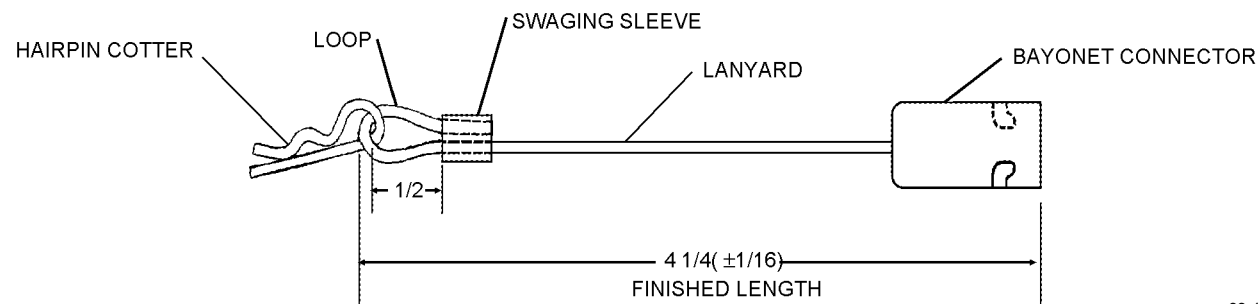


Figure 7-13. Actuating Lanyard Before IACC 589



63-17

Figure 7-14. Actuating Lanyard Assembly After IACC 589

- a. Install length of nylon cord through loop-end of lanyard cable.
- b. Install 50-pound weight on bayonet connector-end of lanyard cable.
- c. With steady, straight upward pull on nylon cord, lift lanyard assembly with attached weight approximately one foot above its resting point.
- d. Observe lanyard loop in swaged sleeve. If cable moves, repeat steps 3, 4, and 5 until lanyard passes pull test.

7-102. T-WRENCH. Fabricate T-wrench (figure 7-15) using steel rod stock as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Steel rod, 0.250 dia.	—
As Required	Steel rod, 0.156 dia.	—
As Required	Steel rod, 0.093 dia.	—

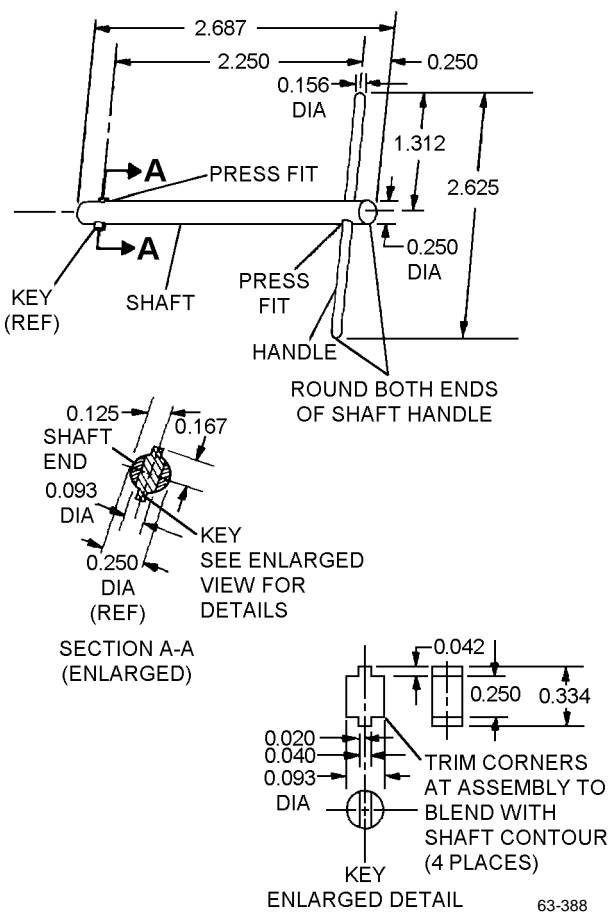


Figure 7-15. T-Wrench Specifications

7-103. ALTERNATE SEAT CUSHION FOAM. To fabricate a replacement foam cushion for the Seat Survival Kit, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Disposable Razor or Knife	—
As Required	CONFOR Foam, 1 inch Thick, CF-47100 Green	NIIN 01-370-6116
	or CF-45100 Blue	NIIN 01-449-1789

1. Remove old foam from seat cushion cover.
2. Use the old foam as a template, place old foam on top of CONFOR foam.

NOTE

Ensure bulk CONFOR foam is large enough to make the new foam cushion one solid piece.

3. Trace around old foam onto the CONFOR foam, including hole for observing the emergency oxygen gage.
4. Cut CONFOR foam along the traced line.
5. Install new foam cushion into seat cushion cover. Ensure seat cushion cover fits cushion foam snugly, but does not cause bowing or excessively loose condition.
6. Write the date installed on foam with permanent marker so it can be seen easily.

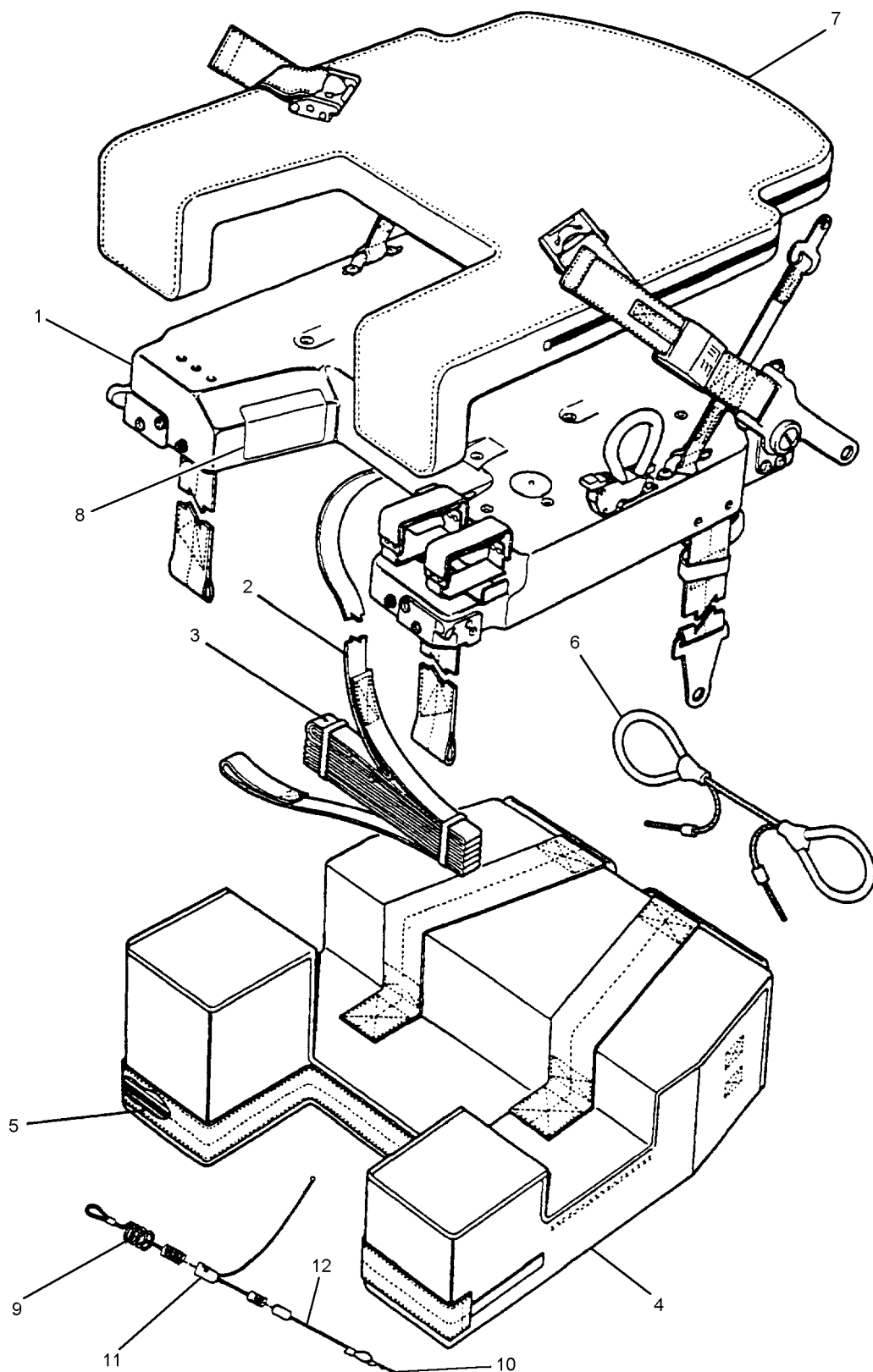
Section 7-8. Illustrated Parts Breakdown

7-104. GENERAL.

7-105. This section lists and illustrates the assemblies and detail parts of the SKU-7/A Seat Survival Kit, Part Number 361E150-1. The kit is manufactured by

East/West Industries (CAGE 30941) and is supplied by Martin-Baker Ltd (CAGE U1604).

7-106. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.



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Figure 7-16. Seat Survival Kit Assembly (SKU-7/A)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
7-16	MBEU146512-1	SURVIVAL KIT ASSEMBLY, SKU-7/A	REF	
	MBEU146555-1	SURVIVAL KIT ASSEMBLY (empty), SKU-7/A	REF	
	361E150-1	SURVIVAL KIT ASSEMBLY (empty), SKU-7/A	REF	
	-1 361E200-1	. LID ASSEMBLY (See figure 7-17 for BKDN)	1	
	-2 325E620-1	. RETAINING LANYARD ASSEMBLY	1	
	-3 ZZ-R-001415	. ELASTIC TIE	4	
	-4 361E450-1	. RUCKSACK ASSEMBLY	1	
	-5 EW49004	. . SLIDE FASTENER, Rucksack	1	
	-6 361E560-1	. DEPLOYMENT HANDLE ASSEMBLY	1	
	-7 361E671-9	. CUSHION ASSEMBLY (Note 1)	1	
	-8 MBEU130399	. NAMEPLATE	1	
	EW91062	. NAMEPLATE	1	
	-9 361D367-1	. LOWER COUPLING ASSEMBLY, Lanyard	1	
	-10 MS16562-192	. PIN, Spring, beacon actuating lanyard	1	
	-11 325D363-11	. CABLE TO LANYARD ASSEMBLY	1	
	325D363-1	. CABLE TO LANYARD ASSEMBLY	1	
	-12 325C365-1	. LANYARD ASSEMBLY, Beacon actuator	1	
Notes: 1. Alternate rate dependant cushion foam has been authorized for use. See Fabrication, Section 7-7 .				

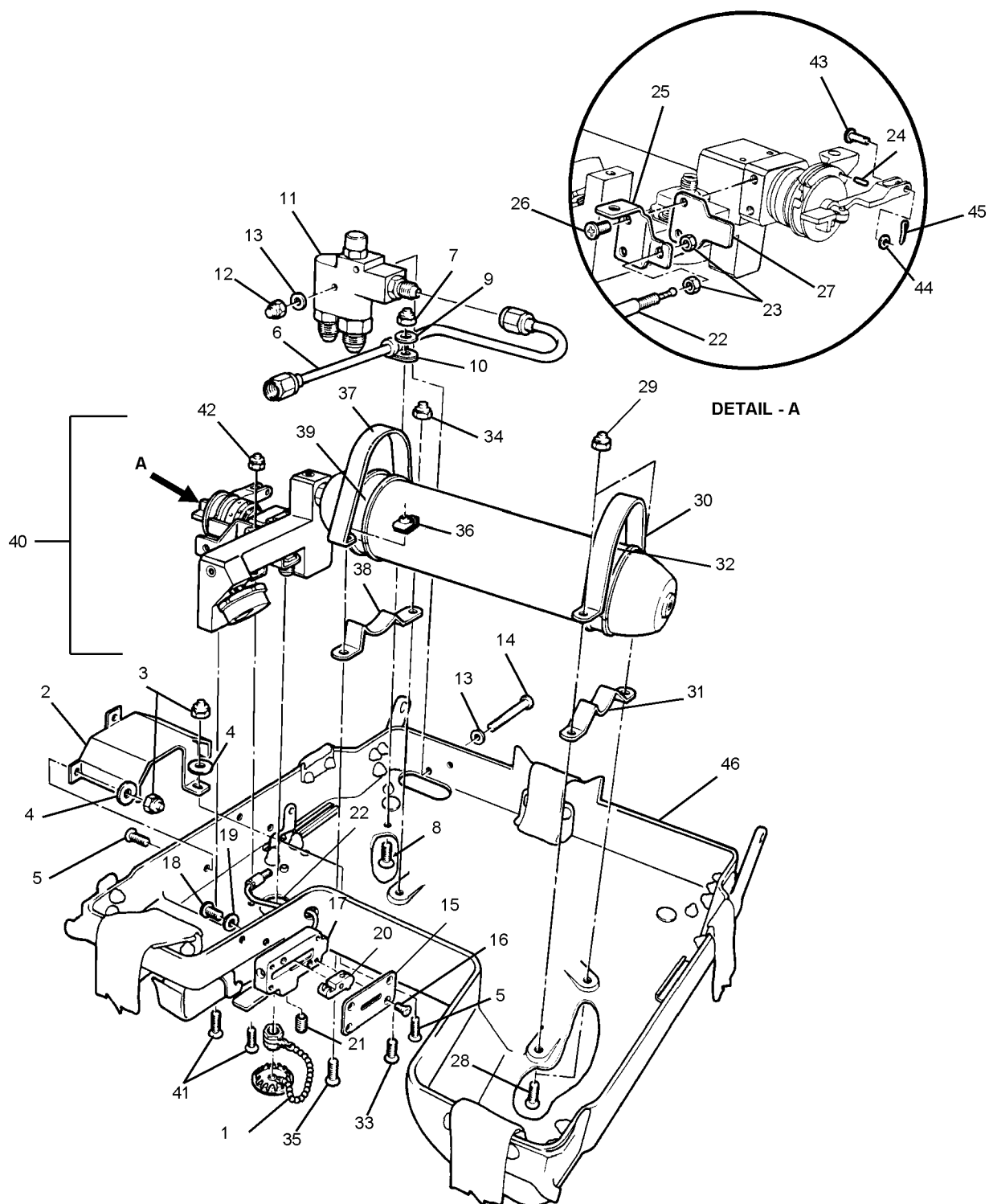
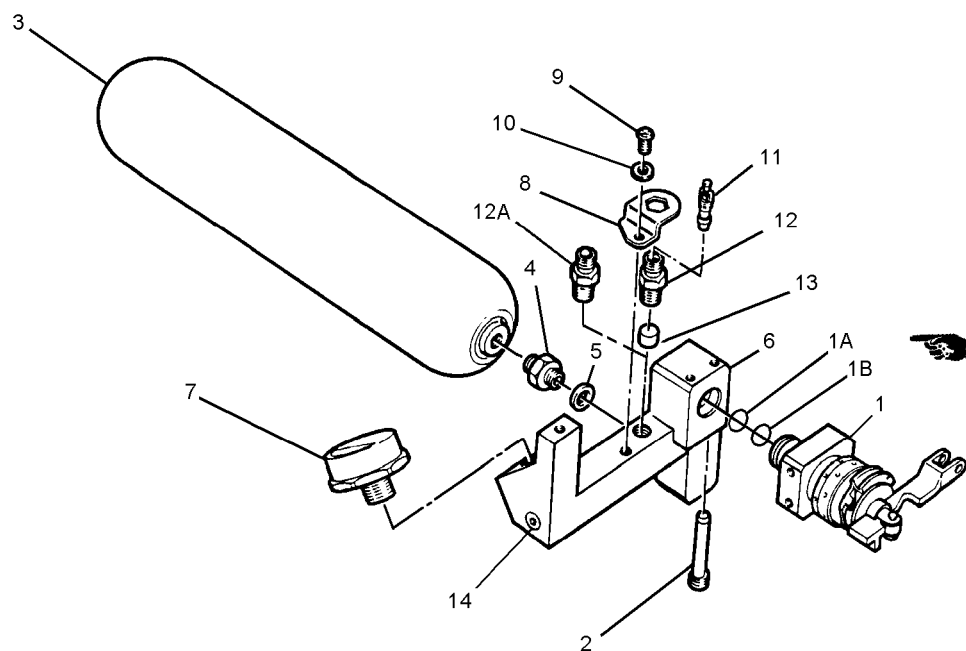


Figure 7-17. Lid Assembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
7-17	361E200-1	LID ASSEMBLY, Survival Kit (NHA figure 7-16)	REF	
-1	361C280-1	. PLUG AND CAP ASSEMBLY	1	
-2	361D839-11	. COVER (ATTACHING PARTS)	1	
-3	EW42008	. NUT, Cap, self-locking	4	
	F22K1-62	. NUT, Cap, self-locking	4	
-4	AN960C6	. WASHER	4	
-5	MS24693-C28	. SCREW ---*---	4	
-6	325D355-1	. TUBE ASSEMBLY, Low pressure	1	
	361D355-1	. TUBE ASSEMBLY, Low pressure (ATTACHING PARTS)	1	
-7	EW42005	. NUT, Cap, self-locking	1	
	F22K1-82	. NUT, Cap, self-locking	1	
-8	MS24693-C50	. SCREW	1	
-9	AN960C8L	. WASHER	1	
-10	MS21919-DG4	. CLAMP ---*---	1	
-11	325D317-3	. MANIFOLD ASSEMBLY, Low pressure (ATTACHING PARTS) (Figure 7-20)	1	
-12	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-13	AN960C8L	. WASHER	4	
-14	MS27039-C0818	. SCREW ---*---	2	
-15	325C391-11	. COVER, Auto Release (ATTACHING PARTS)	1	
-16	MS24693-C3	. SCREW ---*---	4	
-17	325D392-13	. HOUSING, Auto release (ATTACHING PARTS)	1	
-18	MS51958-63	. SCREW	2	
-19	AN960C-10L	. WASHER ---*---	2	
-20	325D394-13	. SLIDE, Auto release	1	
-21	EW50021	. BALL PLUNGER	1	
-22	361E395-1	. CONDUIT ASSEMBLY (ATTACHING PARTS)	1	
-23	221B363-11	. NUT, Special	2	
-24	MS171432	. PIN, Spring ---*---	1	
-25	325D838-11	. BRACKET, Conduit (ATTACHING PARTS)	1	
-26	MS51957-41	. SCREW ---*---	2	
-27	325D852-11	. SPRING, Cantilever	1	

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Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
7-17	361E242-1	. CLAMP ASSEMBLY (ATTACHING PARTS)	1	
-28	MS24693-C273	. SCREW	2	
-29	EW42001	. NUT, Cap, self-locking	2	
	F22K1-02	. NUT, Cap, self-locking	2	
		---*---		
-30	361E242-11	. . CLAMP	1	
-31	361E242-13	. . STRAP	1	
-32	325C235-13	. . INSERT	1	
	361E241-1	. CLAMP ASSEMBLY (ATTACHING PARTS)	1	
-33	MS24693-C273	. SCREW	1	
-34	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-35	MS24693-C274	. SCREW	1	
		---*---		
-36	RM52LHA4972 4-3	. . NUT, Clip	1	
-37	361E241-11	. . CLAMP	1	
-38	361E241-13	. . STRAP	1	
-39	325C235-13	. . INSERT	1	
-40	361E300-1	. EMERGENCY OXYGEN ASSEMBLY (See figure 7-18 for BKDN) (ATTACHING PARTS)	1	
-41	MS24693-C272	. SCREW	2	
-42	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-43	MS20392-1C13	. PIN	1	
-44	AN960C4L	. WASHER	1	
-45	MS24665-1011	. PIN, Cotter	1	
		---*---		
-46	361E200-5	. LID SUB-ASSEMBLY (See figure 7-19 for BKDN)	1	



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Figure 7-18. Emergency Oxygen Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
7-18	361E300-1	EMERGENCY OXYGEN ASSEMBLY (NHA Figure 7-17)	REF	
-1	361E840-1	. PRESSURE REDUCER ASSEMBLY, Adj (ATTACHING PARTS)	1	
-1A	NAS1611-014	. O-RING	1	
-1B	325D813-11	. RING, Backup	1	
-2	266C702-11	. PIN	2	
		---*---		
-3	235D200-3	. CYLINDER ASSEMBLY	1	
-4	266B830-11	. NIPPLE, Union	1	
	266B830-1	. NIPPLE, Union	1	
-5	MS9068-011	. O-RING	1	
	361E300-5	. MANIFOLD ASSEMBLY	1	
-6	361E812-11	. . MANIFOLD ASSEMBLY, High pressure	1	
-7	EW68001	. . GAGE	1	
-8	266C870-13	. . BRACKET, Anti-rotation, filler valve	1	
		(ATTACHING PARTS)		
-9	MS51957-26	. . SCREW	1	
-10	AN960C6L	. . WASHER	1	
		---*---		
	325B380-1	. . VALVE ASSEMBLY, Filler	1	
-11	EW63001	. . . VALVE CORE	1	
-12	102C383-11	. . . BODY, Valve	1	
-12A	9120097-27	. □. □ FILL VALVE [Note 1] □	1	
-13	204B419-11	. . FILTER, Filler valve	1	
-14	MS27769-S1	. . PLUG	2	
Notes: 1. Fill Valve can be used as an alternate to replace Filler Valve Assembly P/N 325B380-1 or Valve Core P/N EW63001 and Valve Body P/N 102C383-11.				

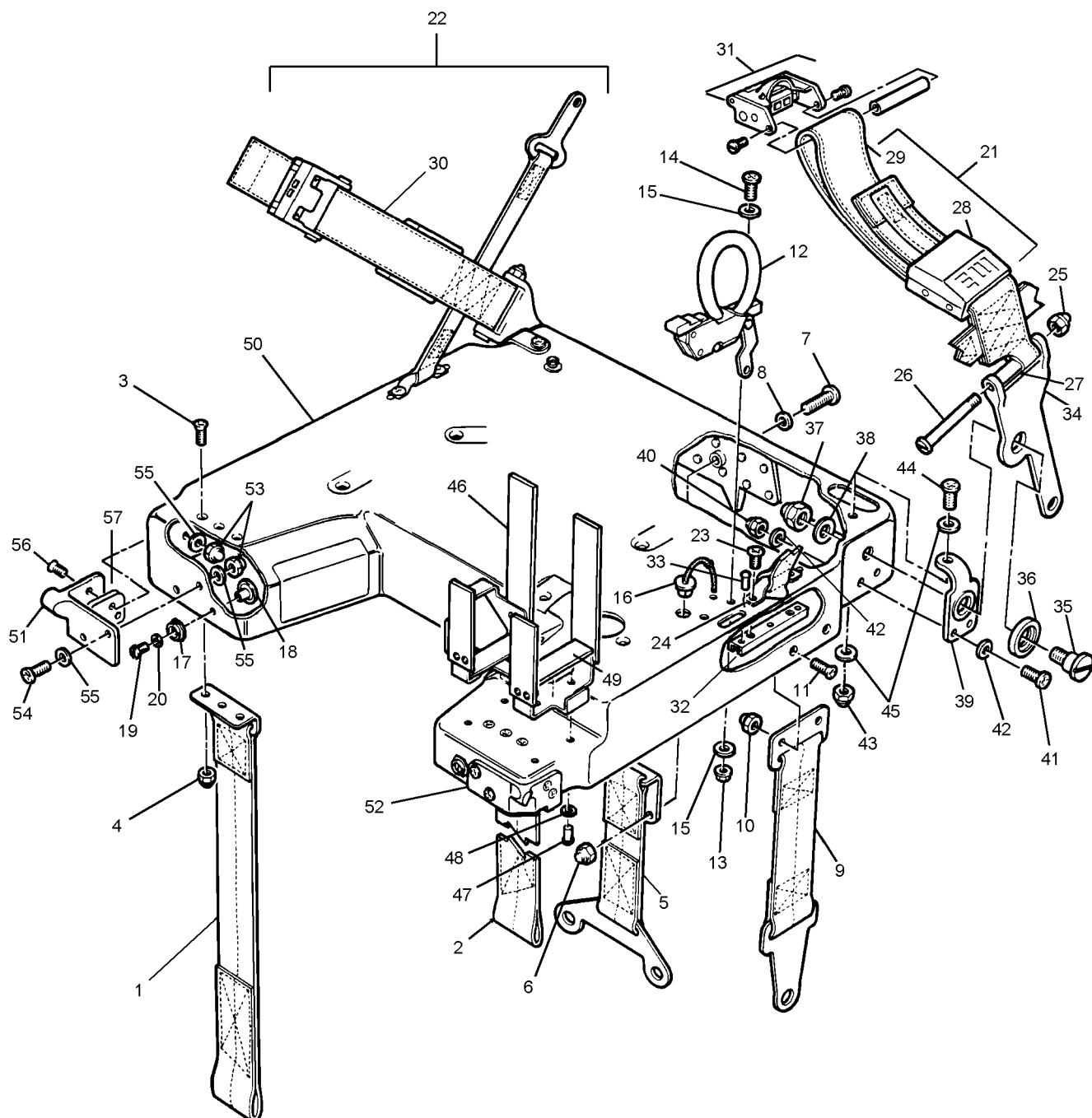


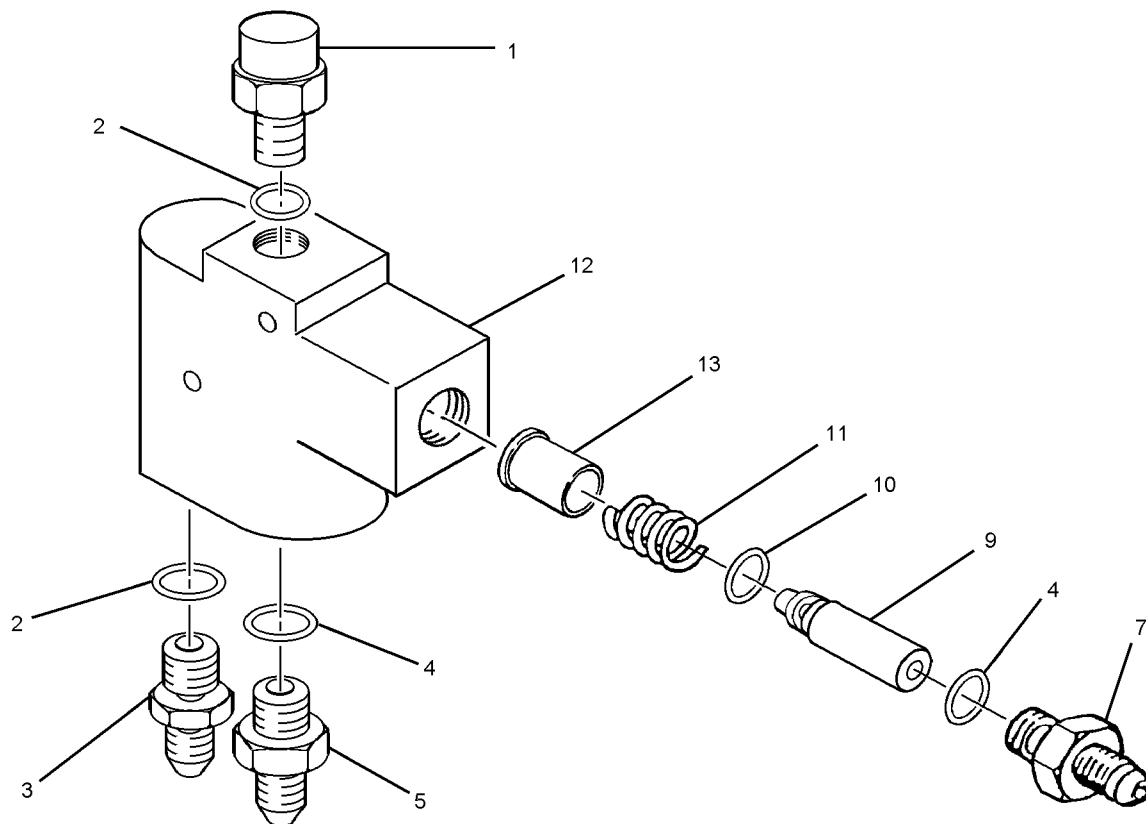
Figure 7-19. Lid Subassembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
7-19	361E200-5	LID SUBASSEMBLY (NHA figure 7-17)	REF	
-1	361D650-3	. STRAP ASSEMBLY, Forward (RH)	1	
-2	361D650-1	. STRAP ASSEMBLY, Forward (LH)	1	
		(ATTACHING PARTS FOR EACH OF ITEMS 1 AND 2)		
-3	MS24693-C28	. SCREW	3	
-4	EW42008	. NUT	3	
	F22K1-62	. NUT	3	
		---*---		
-5	325D660-1	. STRAP ASSEMBLY, Aft	1	
		(ATTACHING PARTS)		
-6	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-7	MS51957-47	. SCREW	2	
-8	AN960C8L	. WASHER	2	
		---*---		
-9	361D630-1	. STRAP ASSEMBLY, Side	2	
	361D630	. STRAP ASSEMBLY, Side	2	
		(ATTACHING PARTS)		
-10	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-11	MS24693-C50	. SCREW	2	
		---*---		
-12	325E350-1	. HANDLE ASSEMBLY, (Manual Actuation)	1	
		(ATTACHING PARTS)		
-13	H14-3	. NUT, Self-locking	2	
-14	MS51958-65	. SCREW	2	
-15	AN960C-10L	. WASHER	4	
		---*---		
-16	361C261-1	. PLUG ASSEMBLY	1	
-17	MS27983-3N	. STUD	4	
-18	MS27983-5N	. EYELET	4	
		(ATTACHING PARTS FOR EACH OF ITEMS 17 AND 18)		
-19	EW41002	. SCREW	4	
-20	NAS620C-5L	. WASHER	4	
		---*---		
-21	325D680-1	. HARNESS ASSEMBLY, (Lapbelt), Adj (LH)	1	
-22	325D680-2	. HARNESS ASSEMBLY, (Lapbelt), Adj (RH)	1	
		(ATTACHING PARTS FOR EACH OF ITEMS 21 AND 22)		
-23	MS51958-63	. SCREW	2	
-24	102C101-13	. BRACKET, Footman	1	
-25	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-26	221B691-11	. PIN, Retention, harness	1	
-27	221B210-11	. ROLLER, Retention	1	
		---*---		

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Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
7-19-28	184C100-1	. . ADJUSTER, Harness restraint	1	
-29	325E690-1	. . HARNESS ASSEMBLY (LH)	1	
-30	325E690-2	. . HARNESS ASSEMBLY (RH)	1	
-31	MBEU144299	. . KOCH CONNECTOR (Notes 2 and 3)	1	
	015-11365-1	. . KOCH CONNECTOR (Notes 2 and 3)	1	
-32	102C281-11	. BACK PLATE	2	
		(ATTACHING PARTS)		
-33	MS20470A3-5	. RIVET	3	
		---*---		
-34	253C645-11	. FITTING, Rear	2	
	253C645-13	. FITTING, Rear	2	
		(ATTACHING PARTS)		
-35	361B646-11	. PIN, Rear attachment	1	
-36	221B648-11	. WASHER, Anti-chafe	1	
-37	EW42003	. NUT, Cap, self-locking	1	
	F22K1-048	. NUT, Cap, self-locking	1	
-38	AN960C416L	. WASHER	1	
		---*---		
-39	325D640-11	. ATTACHMENT FITTING, Rear	2	
		(ATTACHING PARTS)		
-40	EW42001	. NUT, Cap, self locking	2	
	F22K1-02	. NUT, Cap, self-locking	2	
-41	MS51958-63	. SCREW	2	
-42	AN960C-10L	. WASHER	4	
43	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-44	MS51958-63	. SCREW	1	
-45	AN960C-10L	. WASHER	2	
		---*---		
-46	325E511-3	. BRACKET ASSEMBLY, Beacon	1	
		(ATTACHING PARTS)		
-47	MS20426A4-7	. RIVET	4	
-48	AN960C4L	. WASHER	4	
		---*---		
-49	325D513-11	. PAD, Rubber	2	
-50	361E222-11	. LID, MACHINED	1	
-51	325D212-12	. . PIVOT FITTING (RH)	1	
-52	325D212-11	. . PIVOT FITTING (LH)	1	
		(ATTACHING PARTS FOR EACH OF ITEMS 51 AND 52)		
-53	EW42005	. . NUT, Cap, self-locking	4	
	F22K1-82	. . NUT, Cap, self-locking	4	
-54	MS27039-C0809	. . SCREW	12	
-55	AN960C8L	. . WASHER	6	
-56	MS24694-C6	. . SCREW	2	
		---*---		
-57	217B220-15	. . SHIM, LAMINATED	A/R	

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
		Notes: 1. Deleted. 2. When ordering P/N MBEU144299, P/N 015-11365-1 may be received. Both are acceptable and interchangeable in pairs only. 3. When replacing lapbelt assembly connectors P/N MBEU144299 or P/N 015-11365-1, apply sealing, locking, and retaining compound, MIL-S-22473, to shoulder screws.		



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Figure 7-20. Manifold Assembly, Outlet

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
7-20	325D317-3	MANIFOLD ASSEMBLY, OUTLET	REF	
		(See figure 7-17 for NHA)		
-1	EW63004	. RELIEF VALVE (30941)	1	
	P103-673	. RELIEF VALVE (91816)	1	
	Z02RV04-4	. RELIEF VALVE (91816) (Note 1)	1	
-2	MS9068-012	. O-RING (Note 2)	2	
-3	325D336-11	. UNION	1	
-4	MS9068-013	. O-RING (Note 2)	2	
-5	325C335-11	. UNION	1	
-6	Deleted			
-7	325C334-11	. UNION	1	
-8	Deleted			
-9	325C331-11	. SPINDLE	1	
-10	MS9068-010	. O-RING (Note 2)	1	
-11	295B333-11	. SPRING	1	
-12	325D319-13	. MANIFOLD BODY	1	
-13	325C320-11	. SPRING RETAINER	1	
Notes:		1. Torque to a value of 70 ± 5 in-lb.		
		2. Apply a light film of Krytox 240 AZ lubricant, MIL-G-27617, prior to assembly.		

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	7-19-15	PAOZZ
	7-19-42	PAOZZ
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AN960C416L	7-19-38	PAGZZ
AN960C4L	7-17-44	PAGZZ
	7-19-48	PAGZZ
AN960C6	7-17-4	PAGZZ
AN960C6L	7-18-10	PAGZZ
AN960C8L	7-17-9	PAGZZ
	7-17-13	PAGZZ
	7-19-8	PAGZZ
	7-19-55	PAGZZ
EW41002	7-19-19	PAGZZ
EW42001	7-17-29	PAGZZ
	7-17-34	PAGZZ
	7-17-42	PAGZZ
	7-19-25	PAGZZ
	7-19-40	PAGZZ
	7-19-43	PAGZZ
EW42003	7-19-37	PAGZZ
EW42005	7-17-7	PAGZZ
	7-17-12	PAGZZ
	7-19-6	PAGZZ
	7-19-10	PAGZZ
	7-19-53	PAGZZ
EW42008	7-17-3	PAGZZ
	7-19-4	PAGZZ
EW49004	7-16-5	PAGGG
EW50021	7-17-21	PAGZZ
EW63001	7-18-11	PAGZZ
EW63004	7-20-1	
EW68001	7-18-7	PAGZZ
EW91062	7-16-8	MDGZZ
F22K1-02	7-17-29	PAGZZ
	7-17-34	PAGZZ
	7-17-42	PAGZZ
	7-19-25	PAGZZ
	7-19-40	PAGZZ
	7-19-43	PAGZZ
F22K1-048	7-19-37	PAGZZ
F22K1-62	7-17-3	PAGZZ
	7-19-4	PAGZZ
F22K1-82	7-17-7	PAGZZ
	7-17-12	PAGZZ
	7-19-6	PAGZZ

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MBEU130399	7-16-8	MDGZZ
MBEU144299	7-19-31	PAGZZ
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MBEU146555-1	7-16	PAGGG
MS16562-192	7-16-10	PAGZZ
MS171432	7-17-24	PAGZZ
MS20392-1C13	7-17-43	PAGZZ
MS20426A4-7	7-19-47	PAGZZ
MS20470A3-5	7-19-33	PAGZZ
MS21919-DG4	7-17-10	PAGZZ
MS24665-1011	7-17-45	PAGZZ
MS24693-C272	7-17-41	PAGZZ
MS24693-C273	7-17-28	PAGZZ
	7-17-33	PAGZZ
MS24693-C274	7-17-35	PAGZZ
MS24693-C28	7-17-5	PAGZZ
	7-19-3	PAGZZ
MS24693-C3	7-17-16	PAGZZ
MS24693-C50	7-17-8	PAGZZ
	7-19-11	PAGZZ
MS24694-C6	7-19-56	PAGZZ
MS27039-C0809	7-19-54	PAGZZ
MS27039-C0818	7-17-14	PAGZZ
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102C383-11	7-18-12	PAGZZ
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204B419-11	7-18-13	PAGZZ
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221B210-11	7-19-27	PAGZZ
221B363-11	7-17-23	PAGZZ
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221B691-11	7-19-26	PAGZZ
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266B830-11	7-18-4	PAGZZ
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295B333-11	7-20-11	PAGZZ
325B380-1	7-18	PAGGG
325C235-13	7-17-32	PAGZZ
	7-17-39	PAGZZ
325C320-11	7-20-13	PAGZZ
325C331-11	7-20-9	PAGZZ
325C334-11	7-20-7	PAGZZ
325C335-11	7-20-5	PAGZZ
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325D212-11	7-19-52	PAGZZ
325D212-12	7-19-51	PAGZZ
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325D319-13	7-20-12	XAGZZ
325D336-11	7-20-3	PAGZZ
325D355-1	7-17-6	PAGZZ
325D363-1	7-16-11	PAGZZ
325D363-11	7-16-11	PAGZZ
325D392-13	7-17-17	XBGZZ
325D394-13	7-17-20	PAGZZ
325D513-11	7-19-49	XBGZZ
325D640-11	7-19-39	PAGZZ
325D660-1	7-19-5	PAGZZ

Part Number	Figure and Index Number	SM&R Code
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325D680-1	7-19-21	AGGGG
325D680-2	7-19-22	AGGGG
325D813-11	7-18-1B	PAGZZ
325D838-11	7-17-25	XBGZZ
325D852-11	7-17-27	PAGZZ
325E350-1	7-19-12	PAGZZ
325E511-3	7-19-46	XBGZZ
325E620-1	7-16-2	PAGZZ
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361C261-1	7-19-16	PAGZZ
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361D355-1	7-17-6	PAGZZ
361D367-1	7-16-9	PAOZZ
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361D630-1	7-19-9	PAGZZ
361D650-1	7-19-2	PAGZZ
361D650-3	7-19-1	PAGZZ
361D839-11	7-17-2	XBGZZ
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361E200-1	7-16-1	PAGGG
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361E200-5	7-17-46	PAGZZ
	7-19	PAGZZ
361E222-11	7-19-50	PAGGG
361E241-1	7-17-32	PAGZZ
361E241-11	7-17-37	PAGZZ
361E241-13	7-17-38	PAGZZ
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361E300-1	7-17-40	AGGGG
	7-18	AGGGG
361E300-5	7-18	PAGGG
361E395-1	7-17-22	PAGZZ
361E450-1	7-16-4	PAGZZ
361E560-1	7-16-6	PAGZZ
361E671-9	7-16-7	PAOZZ
361E812-11	7-18-6	XAGZZ
361E840-1	7-18-1	PAGZZ
9120097-27	7-18-12A	PAGZZ

CHAPTER 8

SKU-10/A SEAT SURVIVAL KIT

Section 8-1. Description

8-1. GENERAL.

8-2. The SKU-10/A Seat Survival Kit Assembly P/N 366E100-5 is designed for use with the SJU-17(V)1/A, SJU-17(V)2/A and SJU-17(V)9/A Ejection Seats installed in F/A-18C BUNO 164197 and subsequent, F/A-18D BUNO 164196 and subsequent and F/A-18E and F/A-18F aircraft. The SKU-10/A Seat Survival Kit Assembly P/N 366E100-7 is designed for use with the SJU-17A(V)1/A, SJU-17A(V)2/A AND SJU-17A(V)9/A (Post ACC 646) Ejection Seats installed in F/A-18C BUNO 164197 and subsequent, F/A-18D BUNO 164196 and subsequent and F/A-18E and F/A-18F aircraft. The kit functions as a seat for the aircrewmember as well as a platform for mounting emergency oxygen and other survival equipment (figure 8-1). The SKU-10/A Seat Survival Kit Assembly, P/N 366E100-5 (366E100-7, Post ACC 646) is manufactured by East/West Industries (CAGE 30941) and supplied by Martin-Baker Ltd. (CAGE U1604).

8-3. CONFIGURATION.

8-4. The assembly includes a molded fiberglass seat lid, an emergency oxygen system, an AN/URT-33A radio beacon, a rucksack assembly, and a seat cushion.

8-5. The seat lid assembly is the primary structure and serves as a seat for the aircrewman as well as a mounting platform for the rucksack assembly and the emergency oxygen system. Two lapbelts are attached to the lid assembly at the aft outboard edges and are fitted with release assemblies which are attached to the aircrewman's torso harness.

8-6. The AN/URT-33A radio beacon is mounted on the top side of the lid assembly beneath the left thigh pad of the seat cushion.

8-7. A flexible oxygen and communications hose assembly, which consists of two hose subassemblies, is installed on the aft left side of the lid assembly. The first subassembly provides connection for communication and oxygen services between the aircraft console, through the ejection seat survival kit, to a quick dis-

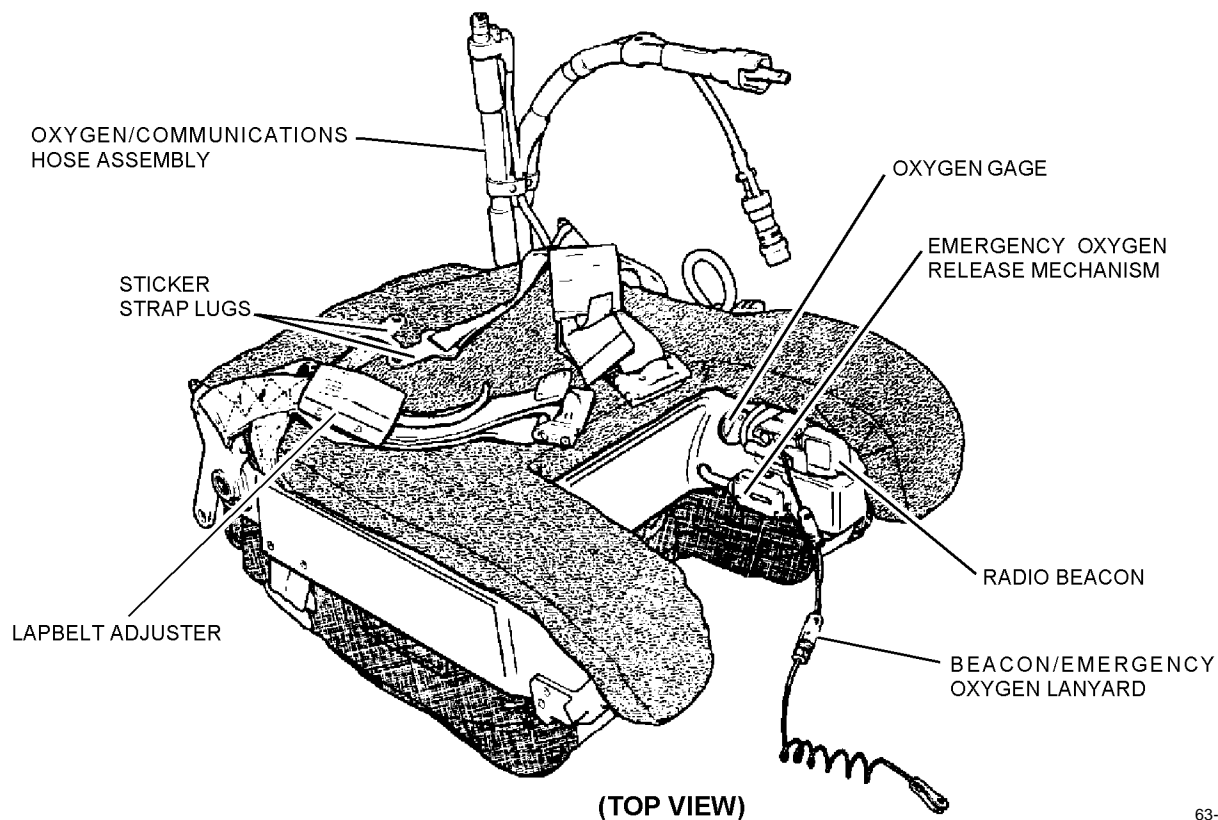
connect union at the end of the subassembly. The second subassembly provides the interconnection between the quick disconnect and the aircrewman's chest mounted breathing oxygen regulator. Anti-g and vent air are provided directly to the aircrewman from the aircraft console.

8-8. The emergency oxygen system is mounted on the underside of the seat lid assembly. The system consists of a 100 cubic inch 1800-psi cylinder and gage, a pressure reducer assembly, and two actuation devices. The two actuation devices consist of a resettable manual actuation handle and a quick-disconnect lanyard for automatic actuation on ejection. The emergency oxygen system will deliver over 10 minutes of breathing oxygen to the aircrewmember.

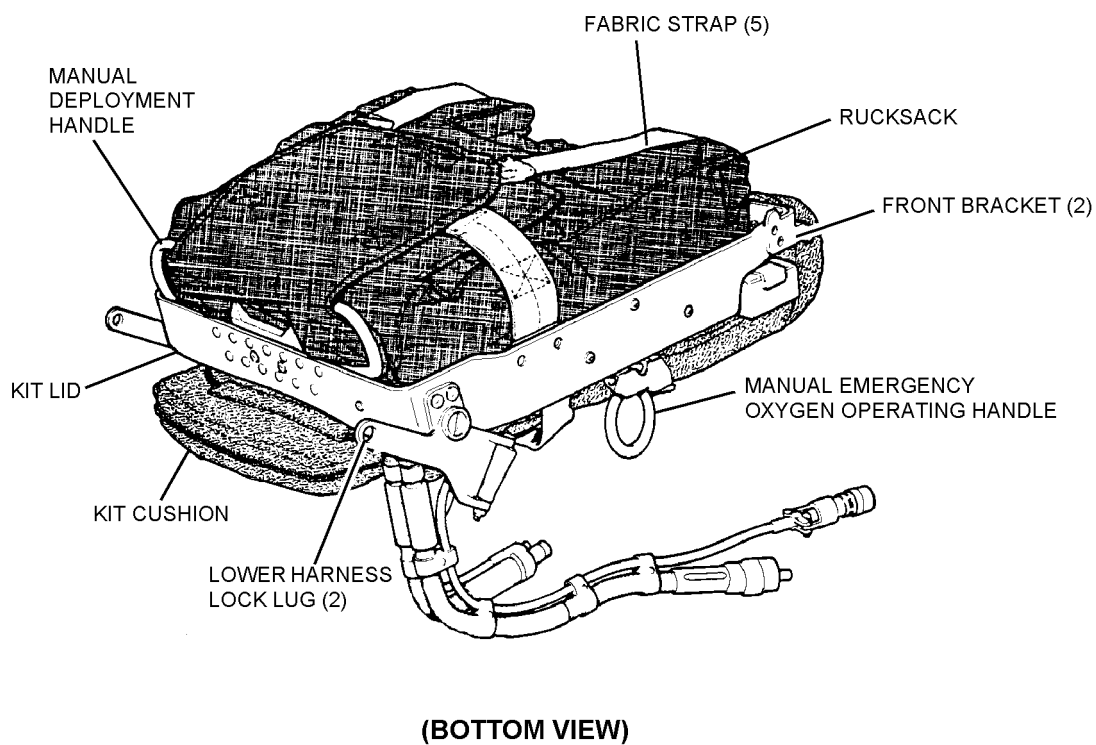
8-9. The fabric rucksack container is divided into two compartments. The larger compartment at the rear of the rucksack, houses the liferaft and is closed by four flaps. The front compartment contains basic survival items and is closed by a zipper. When installed, the rucksack is retained against the underside of the lid assembly by five strap assemblies. The five strap assemblies and the four rucksack assembly flaps are secured by the manual deployment handle assembly. The manual handle assembly consists of two release pins attached by cable to two yellow handles.

8-10. The seat cushion is positioned on top of the lid assembly secured by four snap fasteners; two forward on the bottom inboard side of the thigh pads and two aft near the corners. A fabric strip is sewn to the underside of the cushion to form retaining channels for the flexible radio beacon antenna. (Post ACC 646) The seat cushion is shorter in order to provide space for the forward/aft adjustment of the ejection seat backpad also introduced by ACC 646.

8-11. The LRU-23/P liferaft is manufactured from single ply polyurethane coated nylon fabric. The canopy and floor are fully inflatable for extra exposure protection and a spray visor is installed for visibility. The dropline which connects the liferaft CO₂ inflation assembly to the lid assembly is stored in the base of the liferaft compartment.



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63-118

Figure 8-1. Seat Survival Kit, SKU-10/A - Assembly

8-12. REFERENCE NUMBERS, ITEMS, AND SUPPLY DATA.

8-13. Figures 8-16 through 8-20 of the Illustrated Parts Breakdown (IPB) contain data for each assembly, subassembly, and component part of the SKU-10/A Seat Survival Kit Assembly. Each figure contains a Group Assembly Parts List which provides reference or part number, description, and units per assembly for each part within the illustrated assembly or subassembly. The IPB also contains a numerical index of part numbers. This list provides an alpha-numerical listing of all indexed parts illustrated in the IPB with a reference to their figure location and SM&R coding.

8-14. APPLICATION.

8-15. The SKU-10/A Seat Survival Kit Assembly P/N 366E100-5 is designed for use in F/A-18C BUNO 164197 and subsequent, F/A-18D BUNO 164196 and subsequent and F/A-18E and F/A-18F aircraft equipped with SJU-17(V)1/A, SJU-17(V)2/A and SJU-17(V)9/A ejection seats. The SKU-10/A Seat Survival Kit Assembly P/N 366E100-7 is designed for use in F/A-18C BUNO 164197 and subsequent, F/A-18D BUNO 164196 and subsequent and F/A-18E and F/A-18F aircraft equipped with SJU-17A(V)1/A, SJU-17A(V)2/A and SJU-17A(V)9/A (Post ACC 646) ejection seats.

8-16. FUNCTION.

8-17. The survival kit provides support and comfort for the aircrewman, routing for oxygen and communications, and a platform base for mounting survival equipment and an emergency oxygen supply. Should the aircraft's oxygen system fail, or in the event of high altitude ejection, the emergency oxygen system will deliver breathing oxygen to the aircrewman.

8-18. IN-FLIGHT EMERGENCY. In the event of failure of the aircraft oxygen supply, the emergency oxygen system may be actuated by pulling the manual emergency oxygen actuation handle. If the aircraft oxygen supply is resumed, the emergency oxygen system may be reset by pushing the manual actuation handle back to its stowed position. The flow of emergency oxygen will be shut off and the system reset for normal use. An oxygen pressure gage

mounted in the left thigh support shows oxygen pressure remaining.

8-19. EJECTION SEQUENCE. During the seat ejection sequence, emergency oxygen system is automatically actuated by a lanyard attached to the cockpit floor. This initiates the same sequence of operation as the manual actuation handle.

8-20. As the ejection seat moves up the guide rails, the oxygen hose assembly is pulled free from the aircraft console. A shuttle valve at the survival kit input connect point prevents oxygen from escaping to the atmosphere (figure 8-2).

NOTE

If automatic actuation of the emergency oxygen system fails, the system may be actuated by operating the manual actuation handle (green) located outboard of the aircrewmember's left thigh.

8-21. After a delay, varying with altitude and speed, the aircrewman's parachute will deploy and he will separate from the seat. The survival kit will remain attached to the aircrewman's torso harness.

8-22. Survival kit deployment during parachute descent may be actuated by pulling one of the manual deployment handles (yellow) at the rear of the survival kit. The rucksack will fall away extracting the liferaft and dropline. When the liferaft reaches the end of free-fall, the snubbing action on the dropline pulls a lanyard attached to the raft's CO₂ inflation assembly and the liferaft is inflated. The rucksack containing the basic survival items, is suspended below the inflated liferaft. The survival kit lid remains attached to the aircrewman by the lapbelts, which are connected to the PCU-56 series torso harness.

8-23. After entering the water, the aircrewman connects the liferaft retaining lanyard to an appropriate D-ring on his life preserver. He then boards the liferaft and retrieves the rucksack.

8-24. If the survival kit is not deployed until after water entry, operation of one of the manual deployment handles will release the survival package from the kit lid. The liferaft may then be manually inflated by pulling the liferaft manual inflation handle (attached to the dropline).

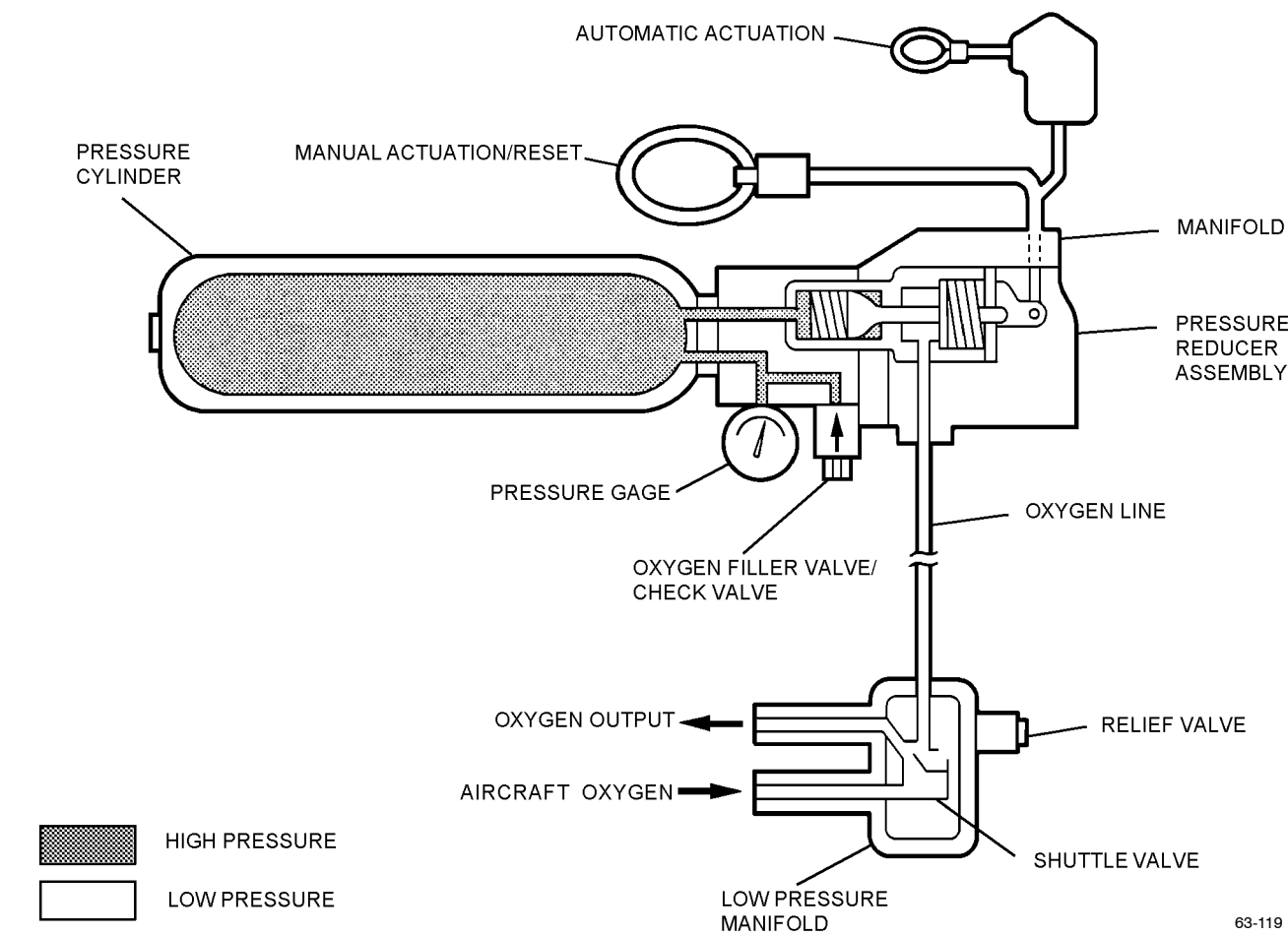


Figure 8-2. Oxygen System - Schematic

Section 8-2. Modifications

8-25. GENERAL.

8-26. Modifications to the SKU-10/A Seat Survival Kit Assembly required or authorized at this time are listed in [Table 8-1](#).

Table 8-1. SKU-10/A Directives

Description of Modifications	Applications	Modification Code
NACES URT-33/A Beacon Radio and Emergency Oxygen Lanyard Connector Retention. This modification shall be incorporated at every 728-Day Inspection.	All NACES SKU-10/A Seat Survival Kits	IACC 66-570
To provide increased accommodation to Navy Common Ejection Seats (NACES) by modification of seat bucket and catapult (ECP MB9230)	All NACES SKU-10/A Seat Survival kits	ACC 646

Section 8-3. Rigging and Packing

8-27. GENERAL.

8-28. Unless operational requirements demand otherwise, rigging and packing of the SKU-10/A shall be accomplished at the Intermediate Level of maintenance every 24 months. The AN/URT-33A radio beacon shall be inspected every 364 days in accordance with inspection procedures listed in the NAVAIR 16-30URT33-1.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by Quality Assurance (QA).

8-29. RIGGING AND PACKING PROCEDURES.

8-30. Rigging and packing of the SKU-10/A shall be accomplished in nine separate operations as follows:

1. Preliminary Procedures.
2. Radio Beacon Rigging and Installation
3. Survival Equipment Binding.
4. Survival Equipment Packing.
5. Stowing Dropline.
6. Liferaft Preparation.
7. Attaching and Stowing Sea Anchor.
8. Liferaft Folding and Stowing.
9. Closing Liferaft Container.

CAUTION

Ensure that the survival kit assembly is rigged and packed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose the kit to any oily substances. Do not slide kit on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the survival package or liferaft assembly.

8-31. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-10/A.

1. Ensure SKU-10/A and components have been inspected in accordance with [paragraph 8-65](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.

WARNING

CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

4. Disconnect CO₂ cylinder from liferaft as follows:
 - a. Carefully remove liferaft from container.
 - b. Disconnect actuation line from CO₂ cylinder.

- c. Disconnect CO₂ cylinder from liferaft.
 - d. Remove large loop of drop line from CO₂ cylinders neck.
 - e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.
5. Ensure liferaft and CO₂ cylinder have been inspected in accordance with NAVAIR 13-1-6.1-1.
6. Remove and discard rubber bands from drop-line.

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 26 feet, 4 inches ± 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of ± 12 inches is acceptable for an older dropline assembly.

7. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 26 feet, 4 inches ± 12 inches.
8. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

- Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.
9. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.
10. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of

attachment, corrosion, damage, wear, and ease of operation.

8-32. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Actuator Indicator Assembly	125B300-1
1	Hairpin Cotter	LHCOTC NIIN 00-956-5633
1	Lanyard, Actuating	Fabricate IAW paragraph 8-101
As Required	Thread, Nylon, Size E, Type II Class A	V-T-295 NIIN 00-244-0609 or equivalent
3	Rubber Bands, Type I	MIL-R-1832 NIIN 00-568-0323

Support Equipment Required

Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 8-102

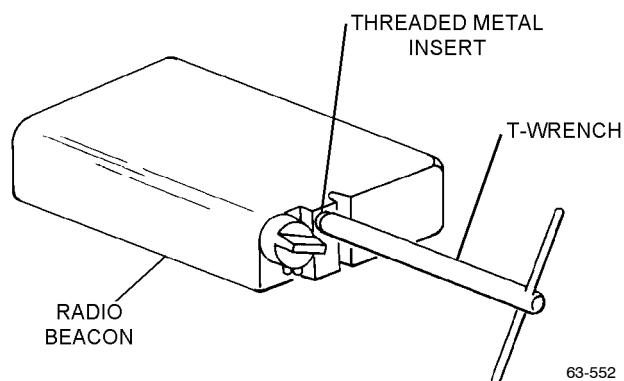
NOTE

- Inspect actuating lanyard to ensure lanyard has been modified in accordance with [paragraph 8-101](#).
1. Ensure radio beacon ON/OFF slider switch is in OFF position, then determine if radio beacon has been modified in accordance with [steps 2 through 5](#).

NOTE

- When slider switch is in OFF position, the ON position placard on beacon housing is not visible.
2. Remove automatic actuation plug and lanyard from radio beacon assembly.

3. Using locally fabricated T-wrench, remove threaded metal insert from radio beacon actuator plug position.



Step 3 - Para 8-32

4. Install actuator indicator assembly handtight in position from which threaded insert was removed.

5. Install hairpin cotter through loop on actuating lanyard tested and inspected in accordance with paragraph 8-101.

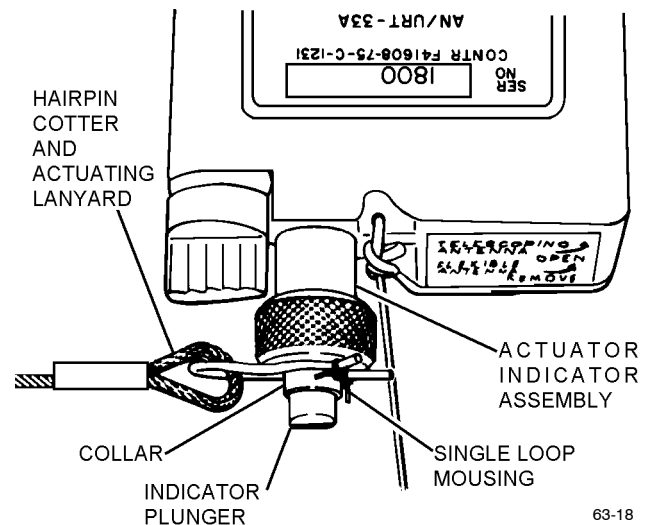
6. Depress actuator indicator plunger, align holes on collar and plunger, and insert hairpin cotter attached to lanyard loop.

7. Ensure hairpin cotter and collar are free to rotate 360° without binding.

NOTE

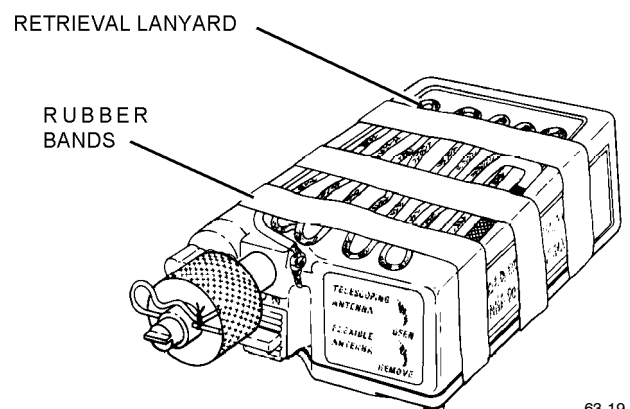
If there is no evidence of binding, proceed to [step 8](#). If hairpin cotter and collar do not rotate freely, refer to NAVAIR 16-30URT33-1.

8. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing using size E nylon thread. Secure mousing loop with square knot. Cut off excess thread approximately 1/8 inch from knot.



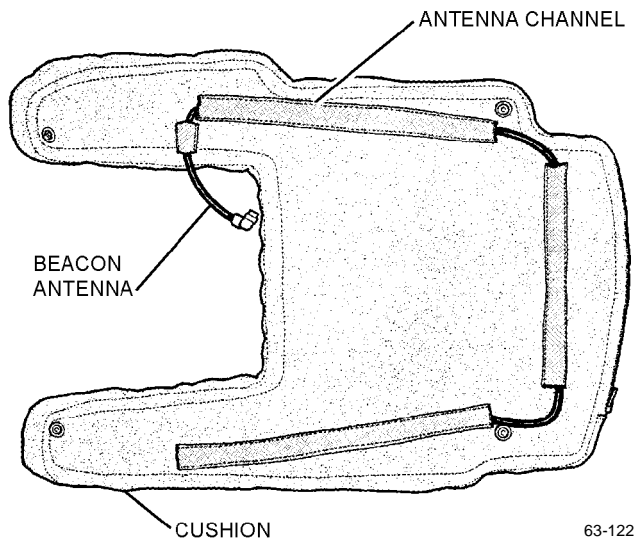
Step 8 - Para 8-32

9. Accordion-fold retrieval lanyard on top of radio beacon and secure with three rubber bands. Ensure retrieval lanyard is attached at both ends with a bow-line knot, with an overhand knot tied at the tag end.



Step 9 - Para 8-32

10. Insert flexible radio beacon antenna into retaining channel sewn on underside of seat cushion.



Step 10 - Para 8-32

11. Connect flexible antenna to radio beacon receptacle by pushing bayonet type fitting in and rotating to the right (clockwise).

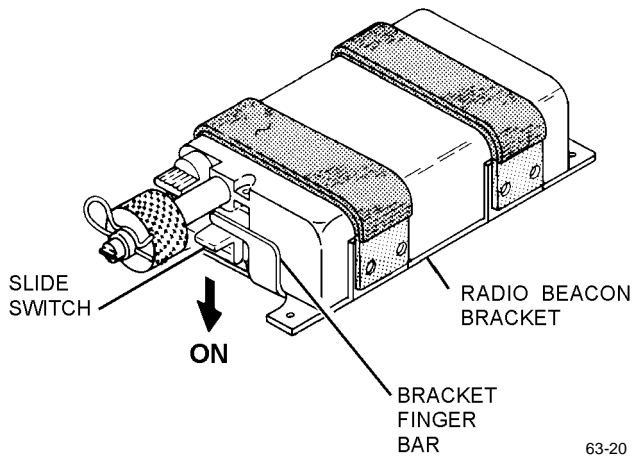
NOTE

Check to ensure actuator indicator plunger is secure in depressed position and hairpin cotter is safety-tied before moving slider switch to ON (armed) position.

12. Place beacon slider switch in ON (armed) position.

13. Holding beacon at approximately 45° angle install in beacon bracket with slider switch under the bracket finger bar. Press opposite end of beacon down to seat in bracket.

14. Ensure slider switch is secure in ON position under finger bar. Then secure radio beacon in bracket with hook and pile fastener.



Step 14 - Para 8-32

15. Check to ensure that antenna has not dislodged from beacon and position cushion on kit lid.

16. Position front edge of cushion's aft snap fasteners on lid snap fastener receptacles and press down to engage. Lift gently to check for proper connection.

17. Position lower edge of front snap fasteners on lid snap fastener receptacles and press down to engage. Lift gently to check for proper connection.

8-33. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 before binding. To bind survival items, proceed as follows. Refer to [table 8-2](#).

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type I	MIL-C-5040
As Required	Cloth, Duck, Nylon	MIL-C-3953
2	Envelope, Clear Vinyl Plastic	MIL-B-117

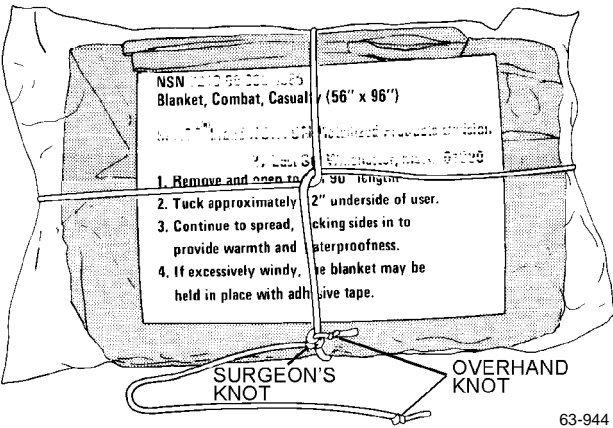
Table 8-2. Survival Kit Items (Note 1)

Nomenclature	Quantity	Reference Number
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Nylon Cord, Type 1	50 ft	NAVAIR 13-1-6.5
Bailing Sponge, Type 2, Class 2	1	NAVAIR 13-1-6.5
Combat Casualty Blanket	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet No. 1 (Medical) (Note 2)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet No. 2 (General) (Note 2)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 6)	Optional	NAVAIR 13-1-6.5
Radio Beacon	1	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 4) or	6	NAVAIR 13-1-6.5
Water, Drinking Emergency (118 ml) (Note 4)	3	NAVAIR 13-1-6.5
Smoke and Illumination Signal, (MK 13 MOD 0 or MK 124 MOD 0)	2	NAVAIR 13-1-6.5
Sea Dye Marker	2	NAVAIR 13-1-6.5
Latex Surgical Tubing	5 ft	NAVAIR 13-1-6.5
Green Lightstick, 12 hour (Note 3)	2	NAVAIR 13-1-6.5
S.O.S. Light, Green, 8 hour (Note 3)	2	NAVAIR 13-1-6.5
HGU-32/P Anti-Exposure Hood (Note 5)	1	NAVAIR 13-1-6.5
HAU-12/P Anti-Exposure Mittens (Note 5)	1 pr	NAVAIR 13-1-6.5
<p>Notes: 1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIR-WARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.</p> <p>2. SRU-31/P complete kit consisting of both the Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.</p> <p>3. Replace Green Lightstick, 12 hour, with S.O.S. Light, Green, 8 hour, at Seat Survival Kit's next inspection cycle. Reference NAVAIR 13-1-6.5 for NIINs.</p> <p>4. If Bag, Drinking Water (50 ml), substitute Water, Drinking Emergency (118 ml), in accordance with NAVAIR 13-1-6.5.</p> <p>5. Not required to be packed if unavailable from supply.</p> <p>6. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.</p>		

NOTE

To prevent loss of survival items, tie them individually and then tie them to a 155-inch length of nylon cord. Cord of the prescribed length required for this procedure shall be seared at both ends to prevent fraying (Table 8-3). All cord used shall be nylon (MIL-C-5040, Type I).

1. Combat Casualty Blanket. Tie overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around casualty blanket. Rotate cord one quarter turn and wrap cord ends round opposite end of blanket. Tie with surgeon's knot. Ensure that an overhand knot is positioned snugly against surgeon's knot.

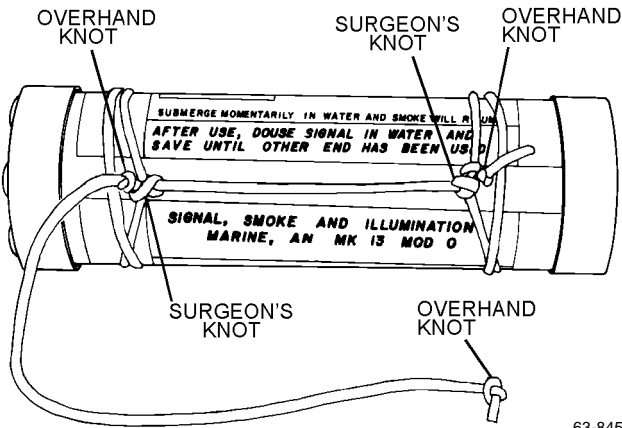


Step 1 - Para 8-33

Table 8-3. Nylon Cord Lengths Required For Binding

Length (Inches)	Number Required
12	8
24	2
30	2
36	3
40	1
155	1

2. Smoke and Illumination Signals. Tie overhand knot in both ends of a 36-inch length of nylon cord. Wrap one end of cord two overlapping turns around one end of signal flare and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Route cord to opposite end of flare and tie in same manner. Cord between end-ties shall be drawn tight. Repeat procedure for second flare.



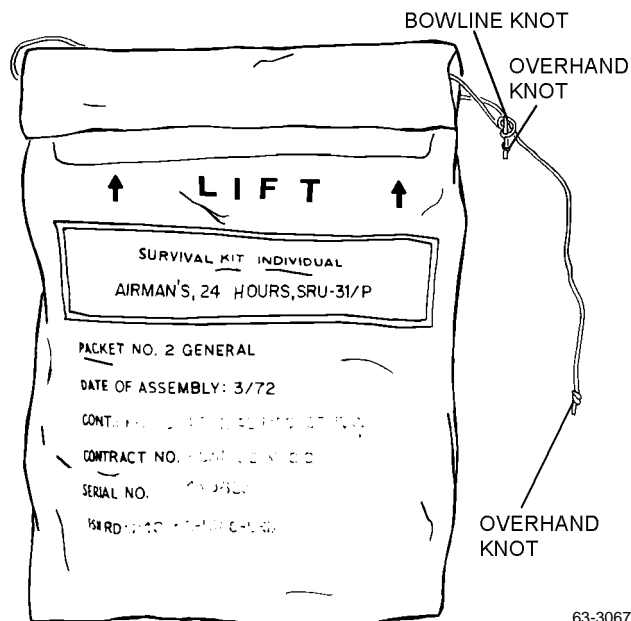
Step 2 - Para 8-33

3. Sea Dye Marker. Tie overhand knot at each end of a 12-inch length of nylon cord. Pass overhand knot through center grommet in dye marker and tie a bowline knot allowing a 1-inch loop. Position an overhand knot snugly against the bowline knot. Repeat procedure for second dye marker.



Step 3 - Para 8-33

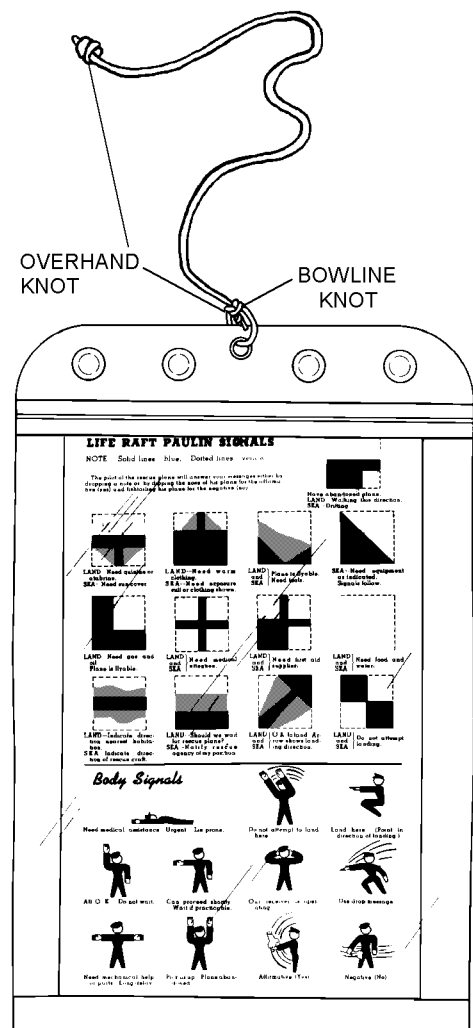
4. SRU-31/P Survival Kit Packets #1 (Medical) and #2 (General). Tie overhand knot in both ends of a 24-inch length of nylon cord. Pass cord-end overhand knot through the tunnel formed by the cover flap and tie with a bowline knot allowing a four-inch loop. Position an overhand knot snugly against bowline knot. Tie Packet #2 in same manner.



63-3067

Step 4 - Para 8-33

5. Ground/Air Emergency Code Card. Place Ground/Air Emergency Code Card into clear vinyl envelope (MIL-B-117) and close sealing slide fastener. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass knot at one end through center hole in envelope. Secure with bowline knot with 1-inch loop; position overhand knot snugly against bowline knot.

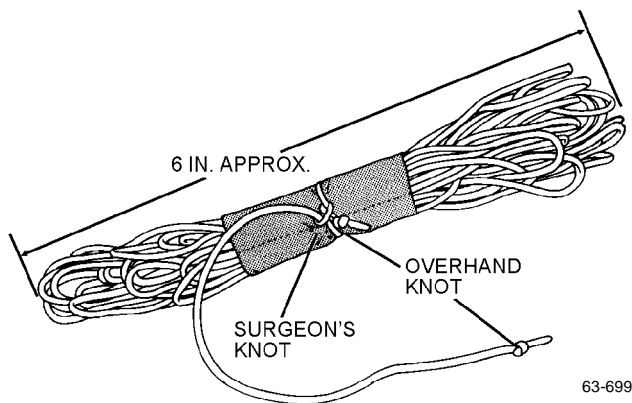


63-700

Step 5 - Para 8-33

NAVAIR 13-1-6.3-2

6. Nylon Cord, Type I, 50 Feet. Cut one 2-inch by 4-inch piece of nylon duck material. Accordion-fold entire length of nylon cord in 6-inch bights and wrap nylon duck material around center of accordion folded cord. Tie an overhand knot at each end of a 12-inch length of nylon cord. Wrap one end of cord around center of duck material and cord bundle and tie with surgeon's knot. Ensure overhand knot is positioned snugly against surgeon's.

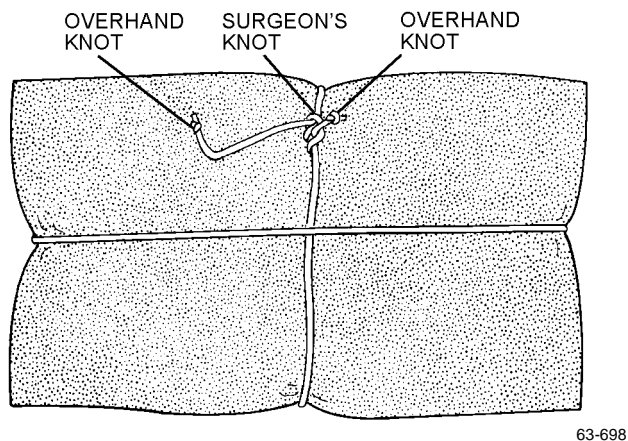


Step 6 - Para 8-33

NOTE

The bailing sponge should be compressed to a minimum thickness by compressing while damp and allowing it to dry in the compressed state before binding.

7. Bailing Sponge. Tie overhand knots in each end of a 30-inch length of nylon cord. Wrap cord around sponge until both ends meet, then rotate cord one quarter turn and wrap cord ends around opposite sides of sponge. Tie with surgeon's knot. Ensure an overhand knot is placed snugly against surgeon's knot.



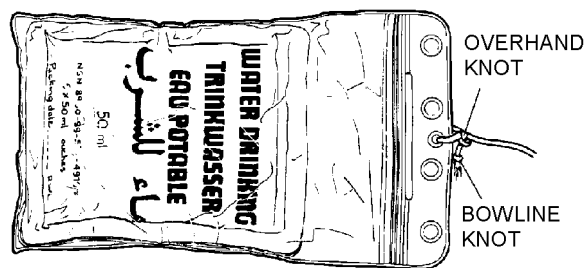
Step 7 - Para 8-33

8. Water Packets.

a. When utilizing Bag, Drinking Water (50 ml), NIIN 99-537-4919, place 6 water packets flat into clear vinyl envelope (MIL-B-117) and close sealing slide fastener.

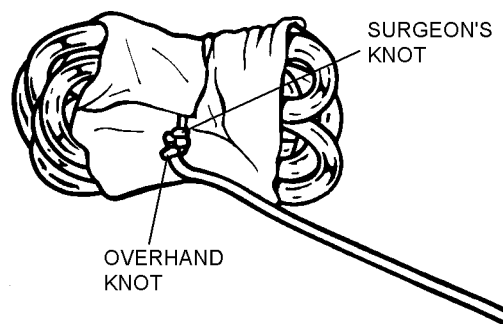
b. When utilizing Water, Drinking Emergency (118 ml), MIL-W-44126, fold the spout over about 1 1/2 inches, then fold bag in half. Place 3 individually folded bags into clear vinyl envelope (MIL-B-117) and close sealing slide fastener.

c. Using 12 inch length of nylon cord, tie overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1 inch loop. Position an overhand knot snugly against the bowline knot.



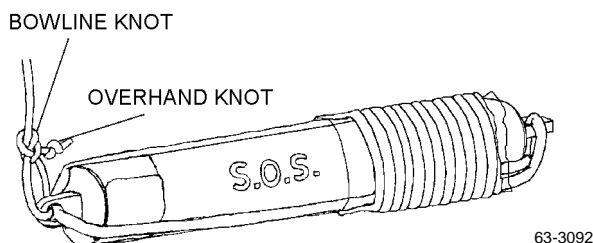
Step 8 - Para 8-33

9. Surgical Tubing. Cut one 2-inch by 5-inch piece of nylon duck material. Accordion-fold latex surgical tubing in 4-inch bights and wrap material around center of accordion folded tubing. Using 12-inch length of nylon cord, tie overhand knot near each end and secure one end of cord to center of material with surgeon's knot. Position an overhand knot snugly against surgeon's knot.



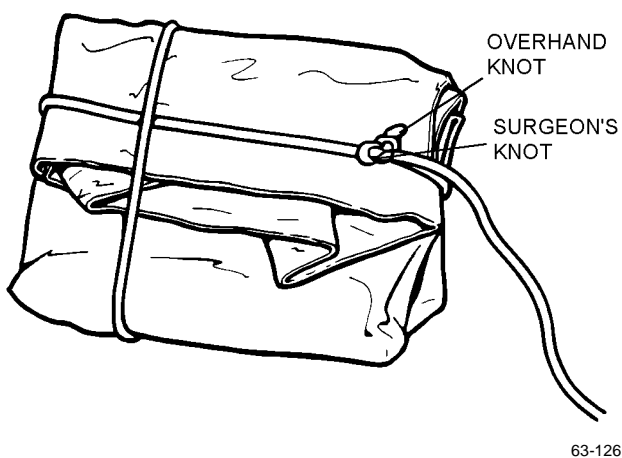
Step 9 - Para 8-33

10. S.O.S. Light, Green 8 Hour. Slip one end of a 12-inch length of nylon cord through capped end lanyard attachment tab. Tie overhand knots in both ends of nylon cord. Tie a bowline knot at the end where the nylon cord has been passed through attachment tab of lightstick. Ensure overhand knot is snugly placed against bowline knot. Repeat procedure for second lightstick.



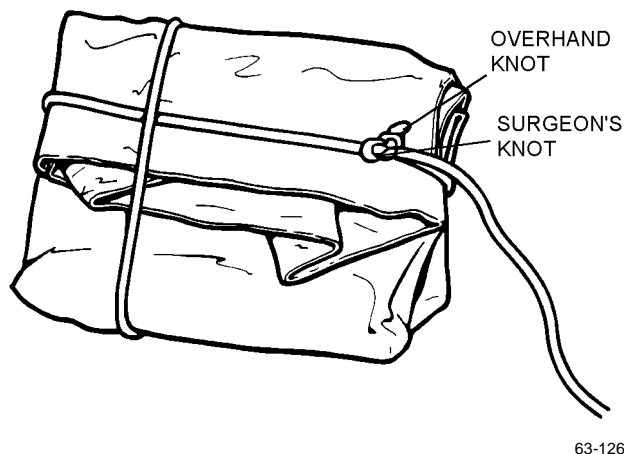
Step 10 - Para 8-33

11. Anti-Exposure Hood. Fold hood into a flat 3 1/2-inch x 4 1/2-inch package. Tie overhand knot in both ends of a 30-inch length of nylon cord. Wrap cord around folded hood until both ends meet, rotate cord one quarter turn and wrap cord ends around opposite side of hood. Tie with surgeon's knot. An overhand knot shall be placed snugly against surgeon's knot.



Step 11 - Para 8-33

12. Anti-Exposure Mittens. Evacuate trapped air and fold mittens into a flat 3 1/2-inch x 4-inch package. Ensure nylon cord connecting mittens is stowed inside package. Tie overhand knot in both ends of a 36-inch length of nylon cord. Wrap cord around folded mittens until both ends meet, rotate cord one quarter turn and wrap cord ends around opposite side of mittens. Tie with surgeon's knot. Position an overhand knot snugly against surgeon's knot.

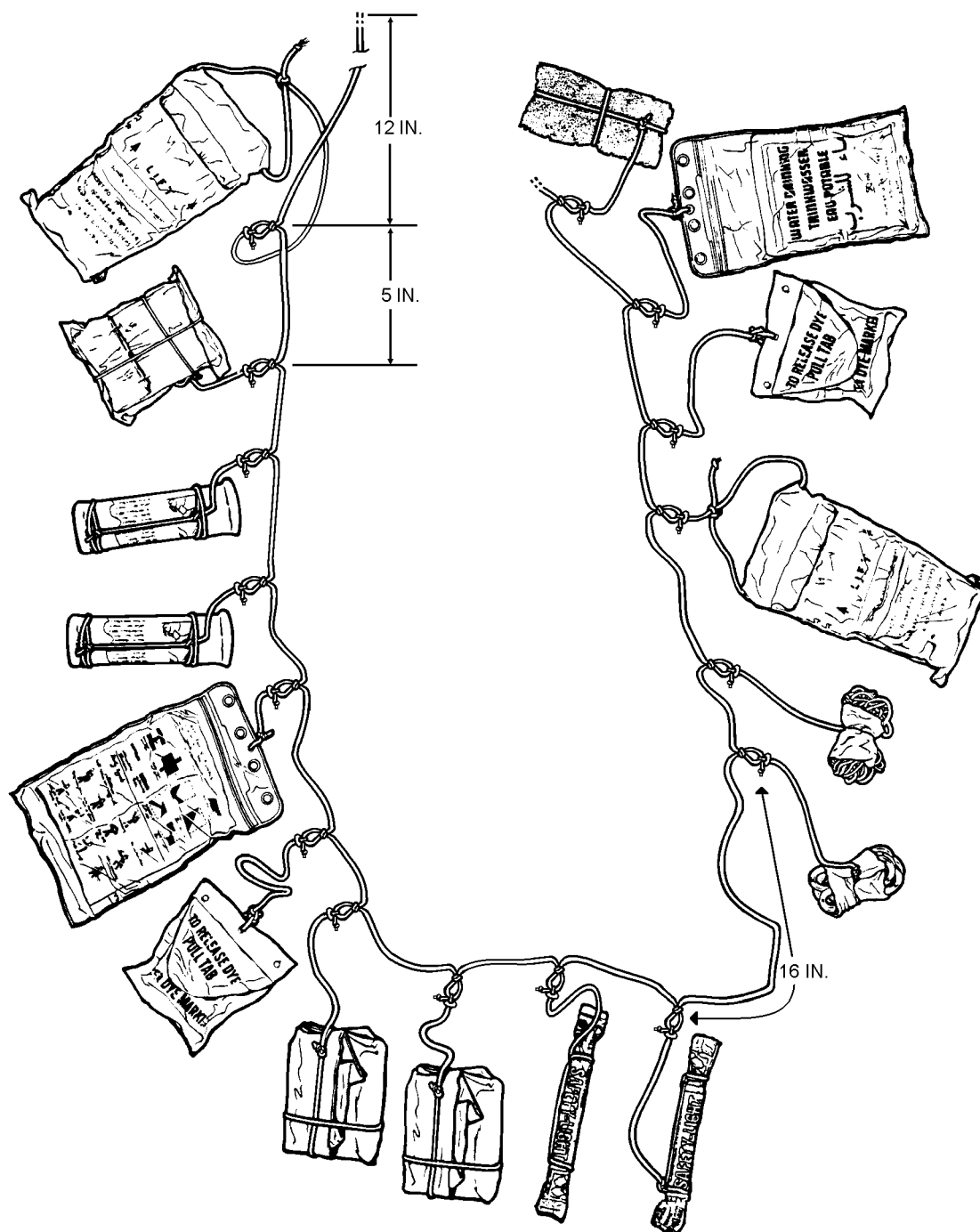


Step 12 - Para 8-33

13. Binding Survival Items to Retaining Cord. Form an overhand loop knot approximately 12 inches from one end of a 155-inch length of nylon cord. Continue making nine additional overhand loop knots approximately 5 inches apart. Leave a 16-inch space and make six more overhand loop knots. A total of 16 overhand loop knots will be required.

14. Beginning at the first loop knot, tie one survival item to each overhand loop using a surgeon's knot in the order stated below (figure 8-3). Draw overhand knot tight after attaching survival item.

- a. SRU-31/P Packet No. 1 (Medical).
- b. Combat Casualty Blanket.
- c. Smoke and Illumination Signal.
- d. Smoke and Illumination Signal.
- e. Ground/Air Emergency Code Card.
- f. Sea Dye Marker.
- g. Anti-Exposure Hood.



NOTE: OVERHAND LOOPS ARE SHOWN LOOSE (OPEN) FOR ILLUSTRATIVE PURPOSES.

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Figure 8-3. Binding Survival Items

h. Anti-Exposure Mittens.

i. Lightstick.

j. Lightstick.

k. Surgical Tubing.

l. Nylon Cord, Type 1.

m. SRU-31/P Packet No. 2 (General).

n. Sea Dye Marker.

o. Bagged Water.

p. Bailing Sponge.

8-34. SURVIVAL EQUIPMENT PACKING. Pack survival equipment in rucksack as follows:

NOTE

No item has a top or bottom designation; however its longitudinal axis may be important.

References to left and right indicate relative positions when installed in aircraft. Rucksack pockets are marked L and R.

1. Ensure oxygen/communications hose assembly is not installed on survival kit lid. Position lid upside down on table with oxygen ON/OFF handle over edge of table and leg supports toward operator. Position survival equipment rucksack inside survival kit lid.

NOTE

If removing the oxygen/communications assemblies, cap inlet and outlet unions and ensure safe keeping of filter element in oxygen inlet union of low pressure manifold.

2. Open slide fastener.

3. Position bound items to be packed in front of survival kit.

4. Insert 12-inch bitter end (closest to SRU-31/P Packet No. 1) of 155-inch nylon cord through loop in inside center of rucksack. Tie with an approxi-

mate 2-inch loop bowline knot and an overhand knot. Ensure that overhand knot is snugly against bowline.

NOTE

Some early issue survival kits have slide fasteners which close from right to left and later kits have slide fasteners which close from left to right. Two procedures are therefore given for stowing the survival items.

5. If rucksack slide fastener closes from right to left, stow bound survival items into equipment compartment of rucksack as follows:

a. Fold SRU-31/P Packet No. 1 and stow in right leg pocket of rucksack. Position packet in bottom of pocket.

b. Stow casualty blanket on top of SRU-31/P Packet No. 1.

c. Stow the two smoke and illumination signals side-by-side on top of the casualty blanket; longitudinal axis lying fore and aft.

d. Stow ground/air emergency code card on top of signals; longitudinal axis lying fore and aft.

e. Stow first sea dye marker on top of emergency code card at rear of pocket.

f. Stow anti-exposure hood on top of the emergency code card in front of sea dye marker.

g. Stow mittens on top of hood.

h. Ensure that survival items in right pocket are properly stowed.

i. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to left to close right leg pocket of rucksack to retain survival items.

j. Stow both lightsticks in tunnel between leg pockets, with surgical tubing between them.

k. Position 16-inch length of cord (without knots) in tunnel between leg pockets.

l. Stow nylon cord in pocket at bottom rear of left leg pocket of rucksack.

m. Stow SRU-31/P Packet No. 2 in left leg pocket. Position flat in bottom of pocket leaving top flap out at front of pocket.

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n. Stow second sea dye marker behind SRU-31/P No. 2.

o. Stow bagged water flat on top of SRU-31/P, longitudinal axis lying fore and aft.

p. Stow sponge on top of bagged water.

q. Fold top flap of SRU-31/P Packet No. 2 over other items.

r. Ensure that survival items are properly stowed.

s. Ensure that nylon cord does not become trapped in slide fastener. Move slide fastener to left to close survival equipment compartment of rucksack.

t. Secure hook and pile tape on container.

6. If rucksack slide fastener closes from left to right, stow bound survival items into equipment compartment of rucksack as follows:

a. Stow SRU-31/P Packet No. 2 in left leg pocket. Position flat in bottom of pocket leaving top flap out at front of pocket.

b. Stow second sea dye marker behind SRU-31/P No. 2.

c. Stow bagged water flat on top of SRU-31/P, longitudinal axis lying fore and aft.

d. Stow sponge on top of bagged water.

e. Fold top flap of SRU-31/P No. 2 over other items.

f. Ensure that survival items in left leg pocket are properly stowed.

g. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to right to close left leg pocket to retain survival items.

h. Stow surgical tubing in the tunnel between the two lightsticks and nylon cord in left leg pocket.

i. Position 16-inch length of cord (without knots) in tunnel between leg pockets.

j. Stow nylon cord in pocket at bottom rear of right leg pocket in rucksack.

k. Fold SRU-31/P Packet No. 1 and stow in right leg pocket of rucksack. Position packet in bottom of pocket.

l. Stow casualty blanket on top of SRU-31/P Packet No. 1.

m. Stow the two smoke and illumination signals side-by-side on top of the casualty blanket, longitudinal axis lying fore and aft.

n. Stow ground/air emergency code card on top of signals, longitudinal axis lying fore and aft.

o. Stow first sea dye marker on top of emergency code card at rear of pocket.

p. Stow anti-exposure hood on top of the emergency code card in front of sea dye marker.

q. Stow mittens on top of hood.

r. Ensure survival items in right leg pocket are correctly stowed.

s. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to right to close survival equipment compartment of rucksack.

t. Secure container's hook and pile fasteners.

8-35. STOWING DROPLINE. Stow dropline as follows:

Materials Required

Quantity	Description	Reference Number
15 in.	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146 or equivalent
4	Rubber Bands, Type I	MIL-R-1832 NIIN 00-528-0323
As Required	Thread, Nylon, Size E, Type I, Class A	V-T-295 NIIN 00-244-0609 or equivalent

1. Lay out dropline between rucksack and lid. Remove all twists. Ensure that short end (closest to red loop) is toward rucksack and long end is toward lid.

2. Ensure the dropline is attached to rucksack assembly as specified in the steps below. If incorrectly installed or not installed attach as follows:

a. Pull looped end of dropline marked "mount to lid" through the right side strap assembly loop where it is attached to the bracket. Create a lark's head knot by pulling the opposite end of dropline through loop end that had been pulled through the right side strap assembly. Tack lark's head knot and webbing of strap assembly using waxed 6 cord, tied with surgeon's knot followed by a square knot.

NOTE

Before proceeding, ensure no twists or knots are in dropline.

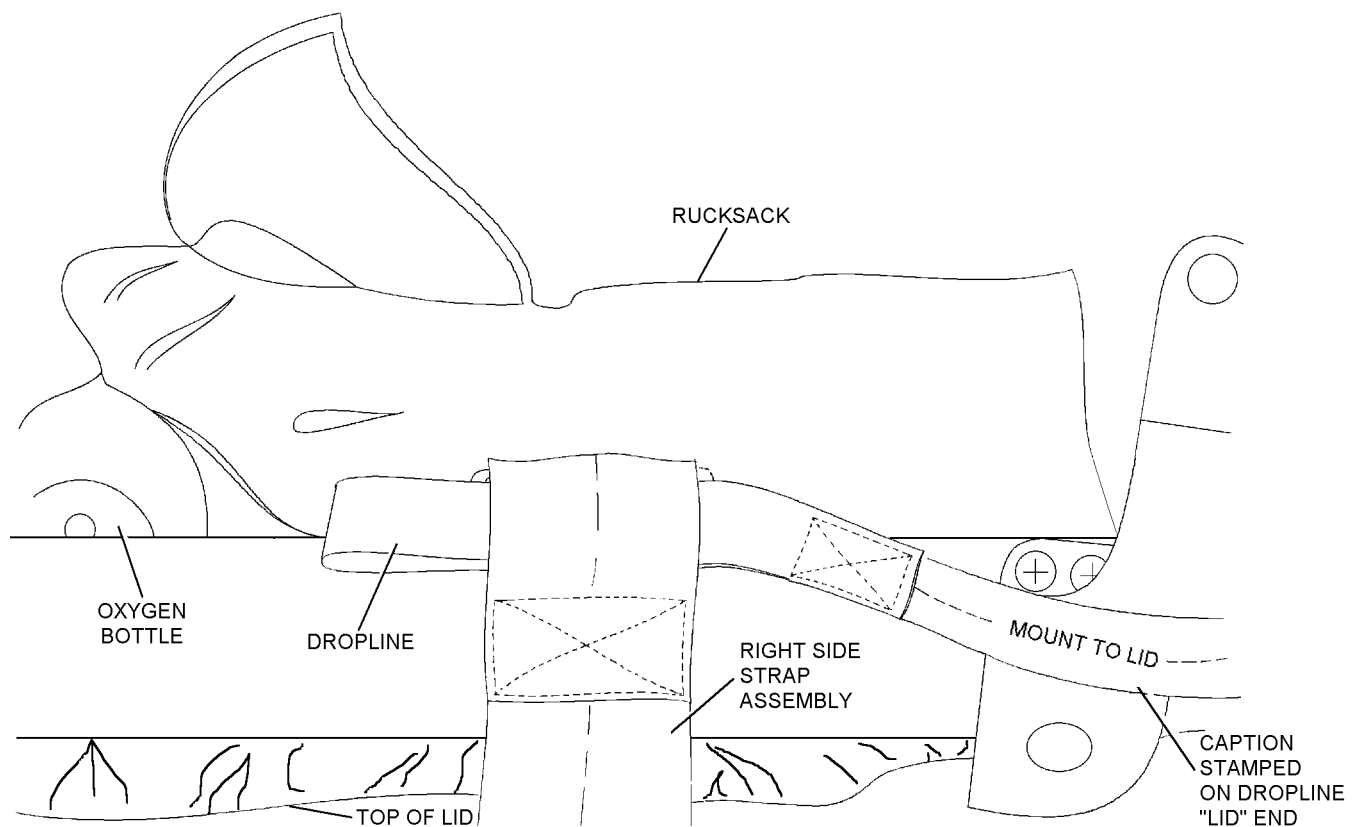
b. Remove the right side strap assembly using a phillips screwdriver and 3/8 inch wrench. Retain screws and nuts.

c. Pull looped end of dropline marked "mount to rucksack" through loop inside the liferaft compartment of the rucksack. Pull the right side strap assembly and dropline through loop creating a larks head knot (step a) and if no twists or knots are in dropline, tack larks head knot with waxed 6 cord, tied with a surgeon's knot.

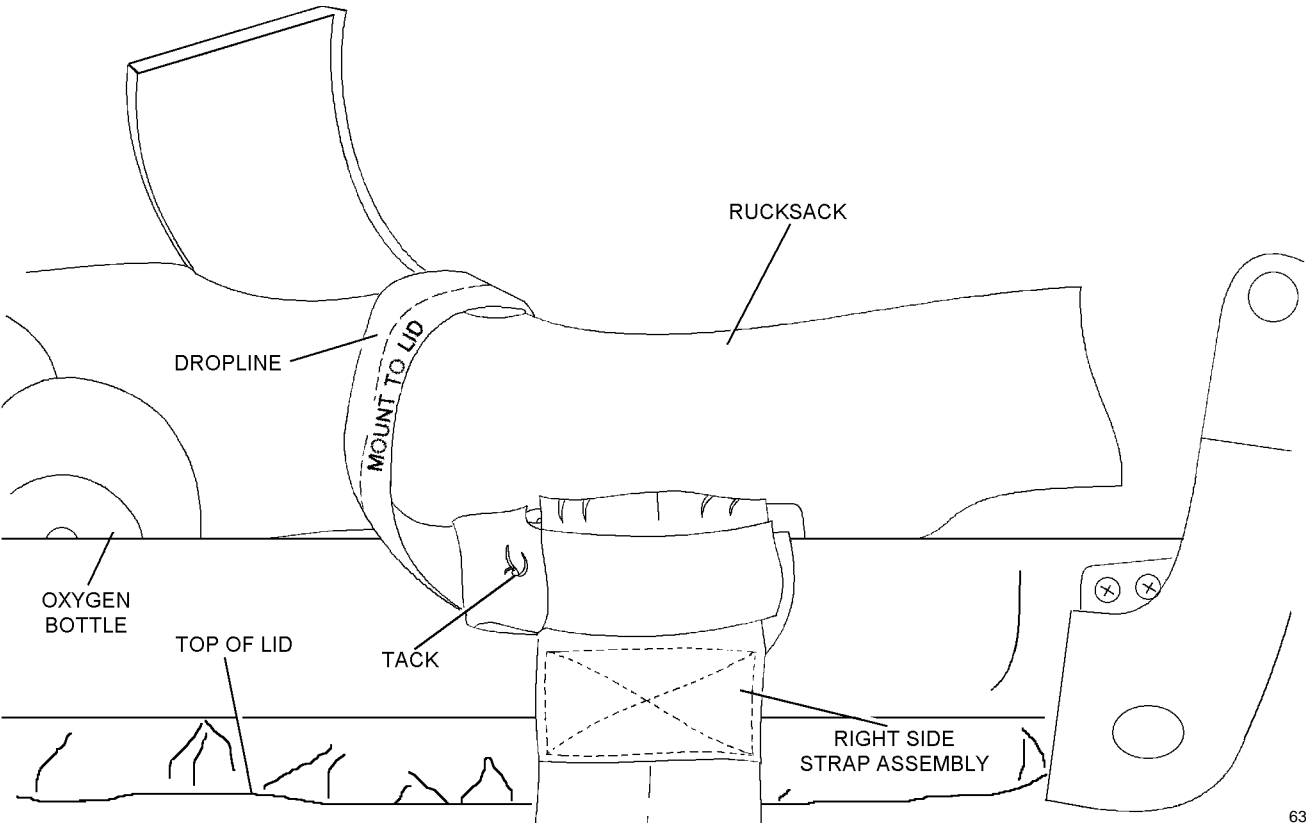
NOTE

Before reattachment of the right side strap assembly, ensure the dropline does not have any twists or knots.

d. Reattach the right side strap assembly ensuring that the larkshead knot is facing in the same direction when first attached to the side strap assembly. This is to ensure that the part number on the right side strap assemblies bracket is still visible.

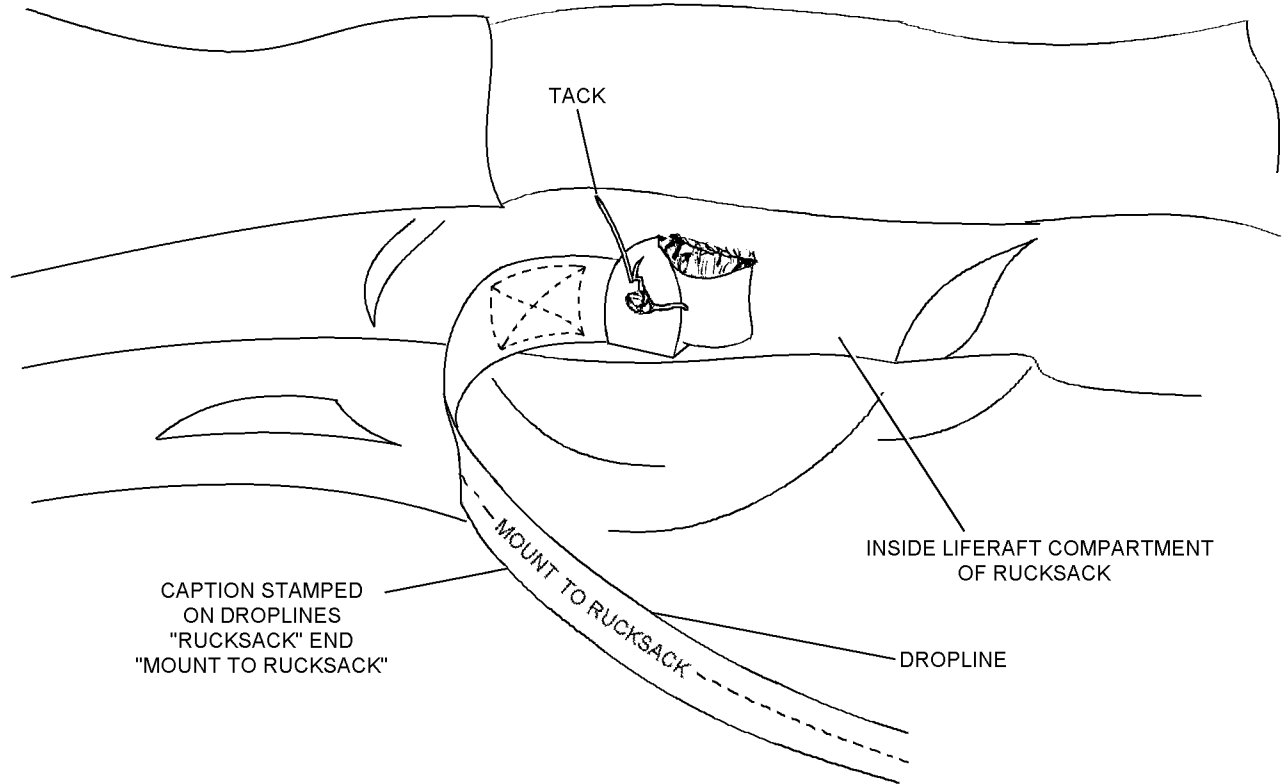


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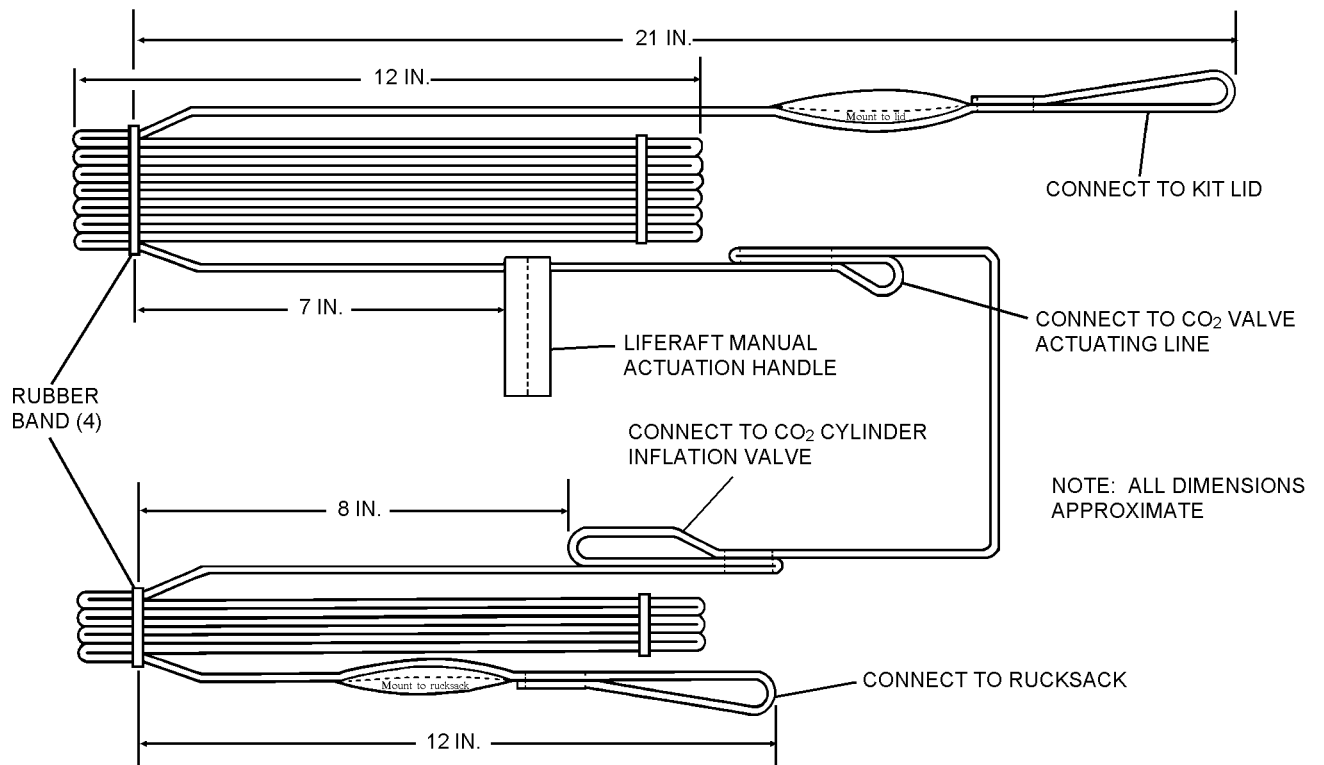
Step 2b - Para 8-35



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Step 2c - Para 8-35

- e. Ensure dropline has been attached properly.
3. Fold dropline into bights. Secure bights with rubber bands.
4. Stow folded dropline in base of liferaft compartment.

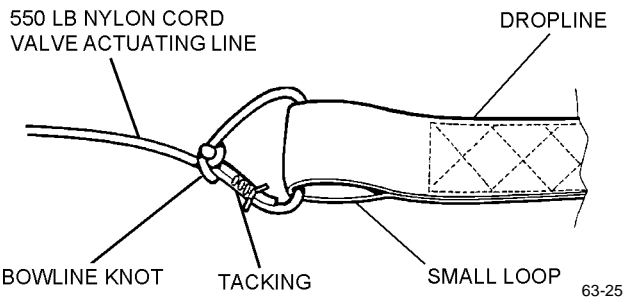


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5. If the valve actuating line is damaged, incorrectly installed or not installed, install a new line as follows:

- a. Cut a 15-inch length of 550-pound Type III nylon cord and sear ends.
- b. Route one end through small loop on drop-line and tie bowline knot. Tack with three turns of waxed, size E nylon thread, single. Tie ends with surgeon's knot followed by square knot.



Steps 5a and b - Para 8-35

8-36. LIFERAFT PREPARATION. Prepare liferaft for packing as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Talcum, Technical	MIL-T-50036A NIIN 01-080-9589
As Required	Thread, Nylon, Size 6, Type II, Class A	V-T-295 NIIN 00-559-5211 or equivalent
As Required	Thread, Nylon, Size E, Type I, Class A	V-T-295 NIIN 00-244-0609 or equivalent

1. Lay liferaft out flat with CO₂ cylinder adjacent to survival kit liferaft compartment (inside up and bow to the right).

NOTE

Ensure CO₂ cylinder has been removed from liferaft before proceeding to next step.

2. Deflate the liferaft in accordance with NAVAIR 13-1-6.1-1, ensuring that all air is removed and oral inflation valve is locked and stowed in pocket.

3. Lightly dust entire raft with talcum powder.

NOTE

Do not connect inflation valve to raft inlet valve at this time.

4. Install properly charged CO₂ cylinder in liferaft stowage pocket.

WARNING

The CO₂ cylinder contains gas under pressure. Do not loosen or attempt to remove inflation valve assembly from cylinder. Explosion may result.

5. Attach loop end of raft retaining lanyard around neck of inflation valve at CO₂ cylinder using lark's head knot (figure 8-4). Pull knot tight and tack with two turns of waxed, 6-cord, nylon thread, single. Tie ends with surgeon's knot followed by a square knot.

6. Accordion-fold raft retaining lanyard into 3-inch bights and stow in stowage pocket on raft. Make sure clip is enclosed in lanyard and that loop end is outside pocket. Close stowage pocket flap and secure with hook and pile fastener.

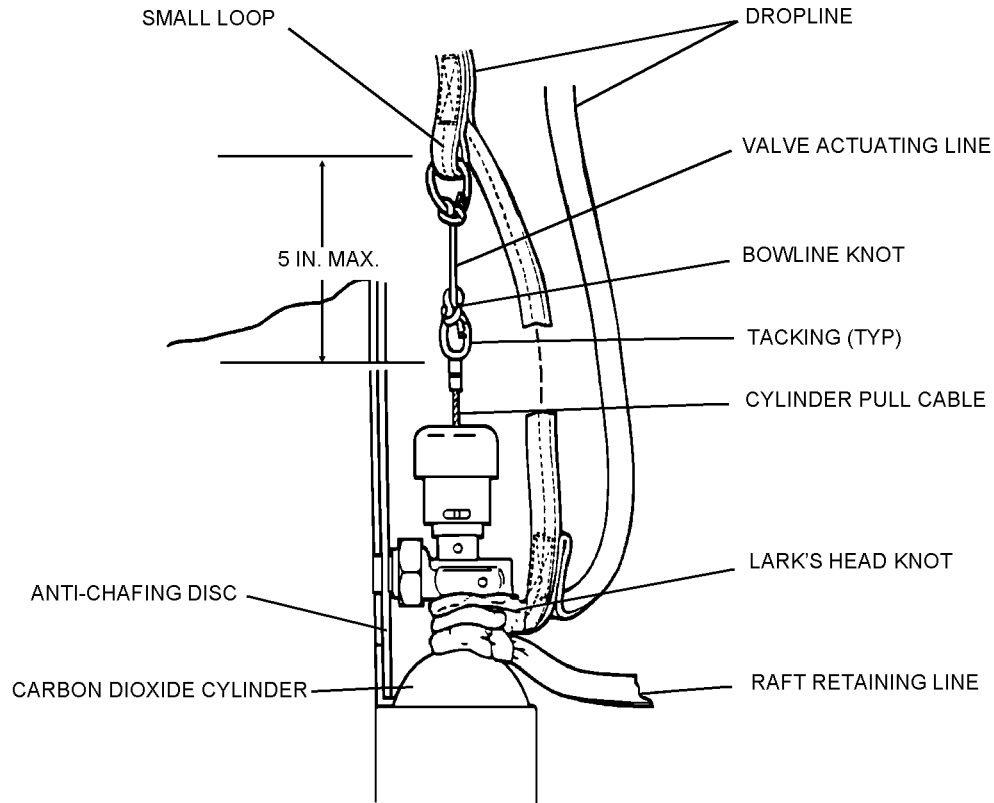
7. Attach large loop of dropline around neck of inflation valve at cylinder using lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord single. Tie ends with surgeon's knot followed by square knot.

8. Ensure anti-chafing disc is installed. Connect inflation valve to liferaft inlet valve. Torque coupling nut to 80-90 inch-pounds, taking care not to damage inlet valve.

WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

9. Pass actuating line through loop in end of cylinder pull cable (figure 8-4). Tie loop, using bowline knot. Tack with three turns of waxed, size E, nylon thread, single. Tie ends with surgeon's knot followed by square knot. Finished length shall not exceed 5 inches.



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Figure 8-4. Liferaft Inflation Assembly

CAUTION

Ensure that end of dropline attached to rucksack does not become entangled in the liferaft during the folding operation.

10. Position short end of dropline leading to survival package (rucksack) clear of CO₂ cylinder.

8-37. ATTACHING AND STOWING THE SEA ANCHOR. Refer to [figure 8-5](#) and attach and stow the sea anchor as follows:

Materials Required

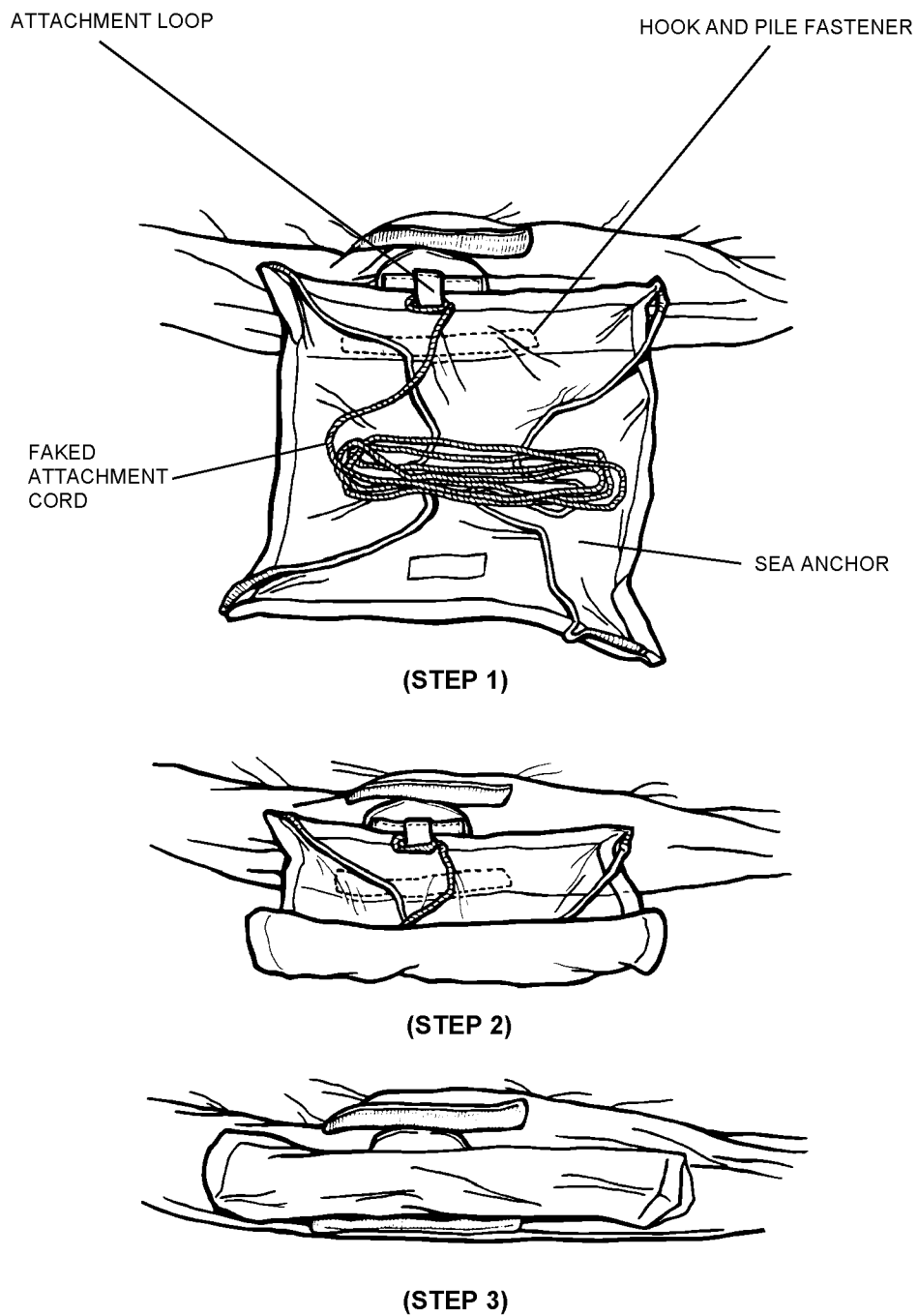
Quantity	Description	Reference Number
10 ft	Cord, Nylon, Type I	MIL-C-5040

1. Tie one end of a 10-foot length of Type I nylon cord to the eye of the sea anchor using a bowline knot.

2. Tie the free end of the cord to the sea anchor attachment loop at the bow end of the liferaft using a bowline knot.

3. Lay out the sea anchor adjacent to stowage position and fake the attachment cord into the center of the anchor ([step 1](#)). Roll the sea anchor toward the attachment point, enfolding the attachment cord ([step 2](#)).

4. Place the rolled sea anchor between the hook and pile fastener strips at the bow end of the liferaft. If necessary, crease the liferaft so that fastener strips engage to secure the sea anchor and attachment cord ([step 3](#)).

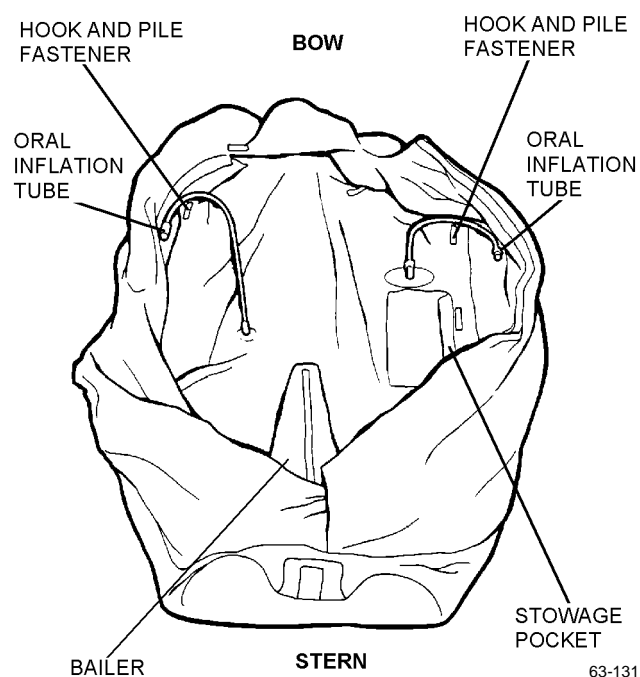


63-130

Figure 8-5. Sea Anchor Attaching and Stowing

8-38. FOLDING THE LIFERAFT. Fold the liferaft as follows:

1. Ensure that all trapped air is expelled from the liferaft.
2. Lay the floor and buoyancy chamber oral inflation tubes toward the bow-end, inboard of the bow-end hook and pile tape fastener patches. Curve the tubes back toward the stern, outboard of the tape fastener patches.



Step 2 - Para 8-38

3. Starting at the bow-end, fold the canopy under and mate with the three hook and pile fastener tape fastener patches on each side of the buoyancy chamber. Ensure that the oral inflation tubes curve around the bow-end tape fastener patches from inboard to outboard and back toward the stern.

4. Fold the hood portion of the canopy toward the stern and lay the visor flat and even under the hood.

5. Lay canopy sides flat and even on the buoyancy chamber.

6. (Refer to [figure 8-6](#)) Fold stern of liferaft inboard to the center and align outer edge of fold approximately one inch wider than the end of the CO₂ cylinder ([step 1](#)).

7. Fold inboard end back on itself so inboard edge of fold aligns with end of inflation valve ([step 2](#)).

8. Fold bow end inboard to the center and align outer edge of fold approximately one inch wider than the end of the inflation valve. Smooth down the folds and lay the water pockets flat ([step 3](#)).

9. Fold the inboard end back on itself so that the inboard end aligns approximately with the end of the CO₂ cylinder and smooth down the folds ([step 4](#)).

10. Tuck the end of the fold adjacent to the CO₂ cylinder under so that the liferaft does not protrude beyond the cylinder ([step 5](#)).

8-39. STOWING THE LIFERAFT. Stow the liferaft as detailed below:

1. Ensure dropline is stowed neatly in bottom of liferaft compartment.

2. Position liferaft in compartment so that CO₂ cylinder lies adjacent to emergency oxygen cylinder with dropline aft of CO₂ cylinder.

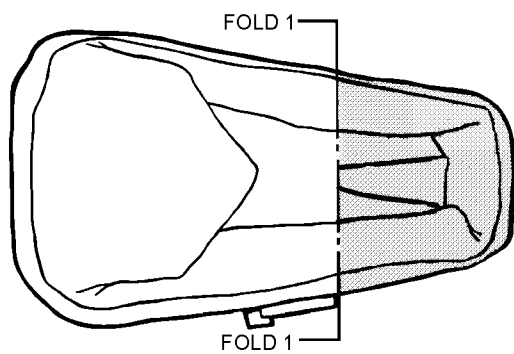
3. Position manual operating handle in front left corner.

4. Fold liferaft forward and form fold at rear of compartment.

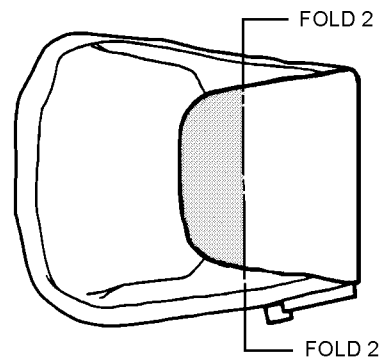
5. Fold liferaft aft and form fold against CO₂ cylinder.

6. Fold liferaft forward and form fold at rear of compartment.

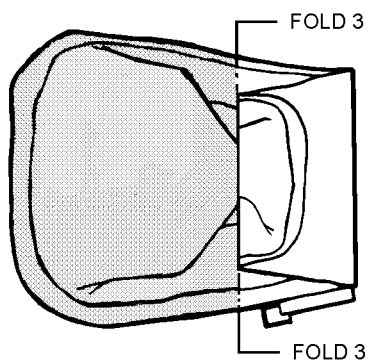
7. Fold liferaft under and aft and form fold at front of compartment, above CO₂ cylinder.



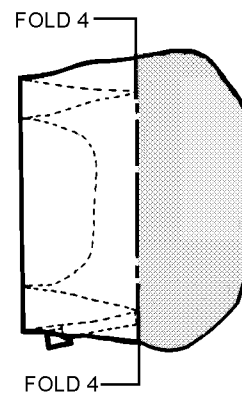
(STEP 1)



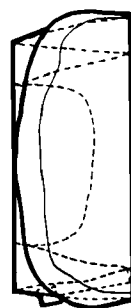
(STEP 2)



(STEP 3)



(STEP 4)



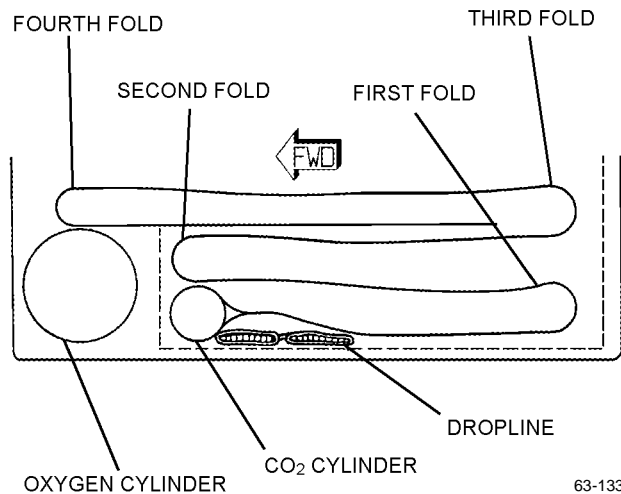
(STEP 5)

Figure 8-6. Folding the Liferaft

NOTE

Some adjustment of liferaft may be necessary to obtain flattest possible configuration.

8. Position manual operating handle (red) on top of folded liferaft.



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Steps 3 thru 8 - Para 8-39

8-40. CLOSING LIFERAFT CONTAINER. Close the life raft container as detailed below:

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146 or equivalent
As Required	Thread, Nylon, Size A, Class A	V-T-295 NIIN 01-174-9604

Support Equipment Required

Quantity	Description	Reference Number
1	Dial Push/Pull Gage 0 to 50 Pounds	DPP-50 (CAGE 11710)

1. Hold folded liferaft as flat as possible and position side flaps over the top of liferaft.

2. Bring front closure flap over top of liferaft.

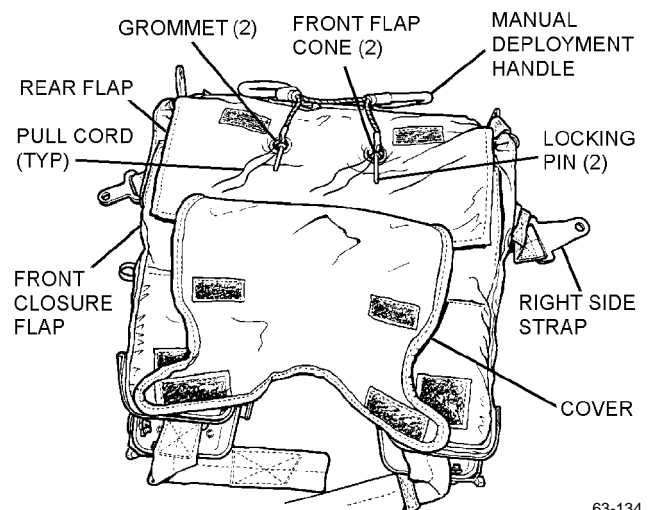
3. Prepare pull cords using two 25-inch lengths of Type III nylon cord. Remove and discard inner strands. Route nylon cord through each cone on front closure flap. Ensure an equal length of cord extends from each side of cone eye.

4. Bring over rear flap and route nylon cord through grommets of rear flap.

NOTE

Illustrations in following steps show use of manual deployment handle pins during closing of liferaft container.

5. Pull cones through grommets of rear flap using nylon cord. Install temporary locking pins in cones or use pins on manual deployment handle assembly.

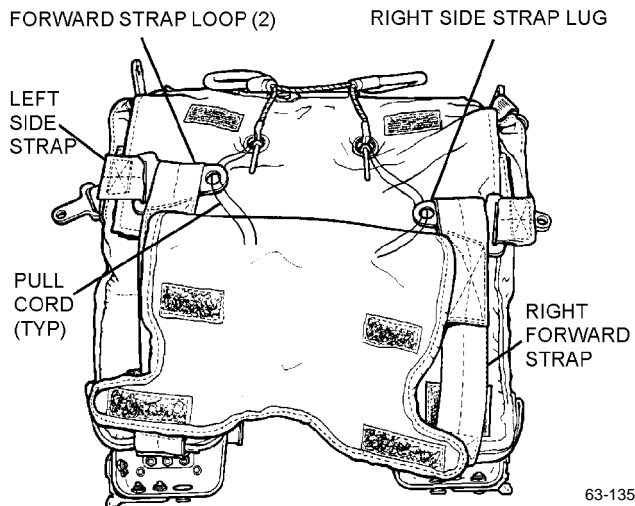


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Step 5 - Para 8-40

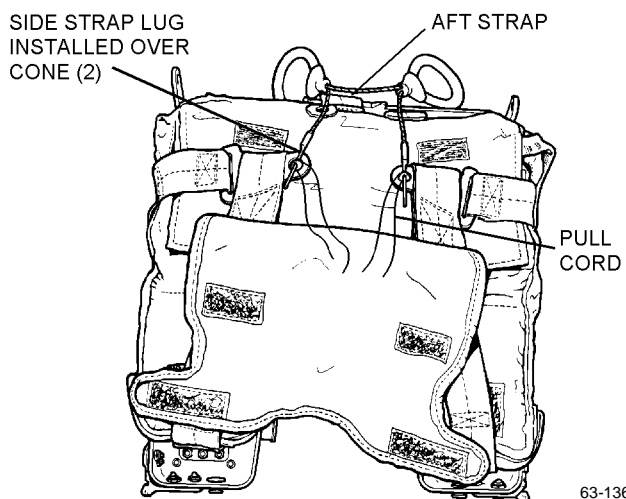
NAVAIR 13-1-6.3-2

6. Bring up left side strap and left forward strap and pass side strap lug through forward strap loop; route pull-cord through hole in side strap lug. Repeat procedure for straps on right side.



Step 6 - Para 8-40

7. Using nylon pull-cord, draw side strap lug into position snug against cone, remove locking pin from cone, pull cone through hole in lug, and reinstall locking pin.



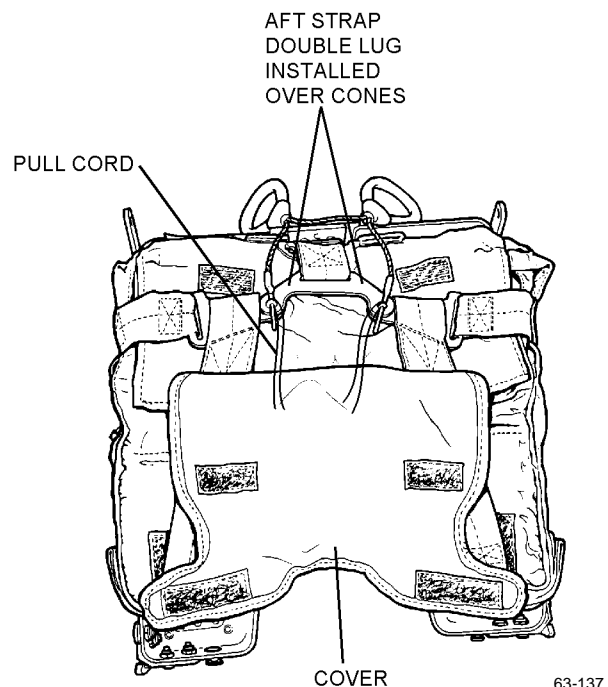
Step 7 - Para 8-40

NOTE

Use same procedure for both left and right side straps

8. Thread nylon cord through holes in rear strap double lug.

9. Using nylon cord, pull up rear strap and install double lug over cones. Remove and reinstall pins one at a time to retain double lug.

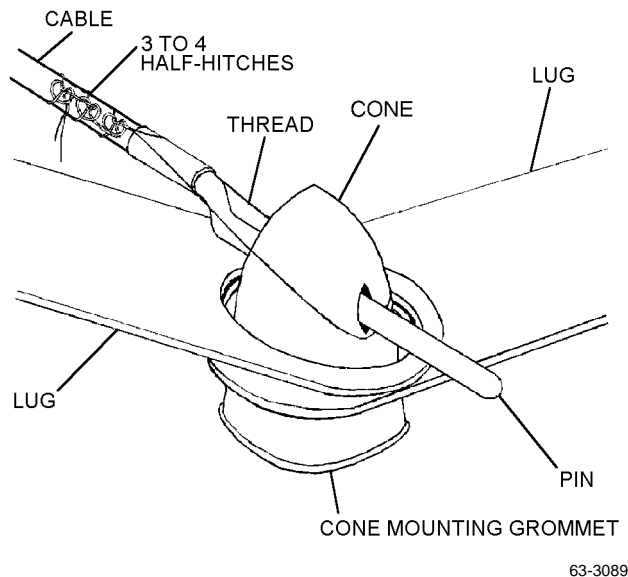


Step 9 - Para 8-40

10. If temporary locking pins were used, replace with pins of manual deployment handle. Remove nylon pull-cords from cones.

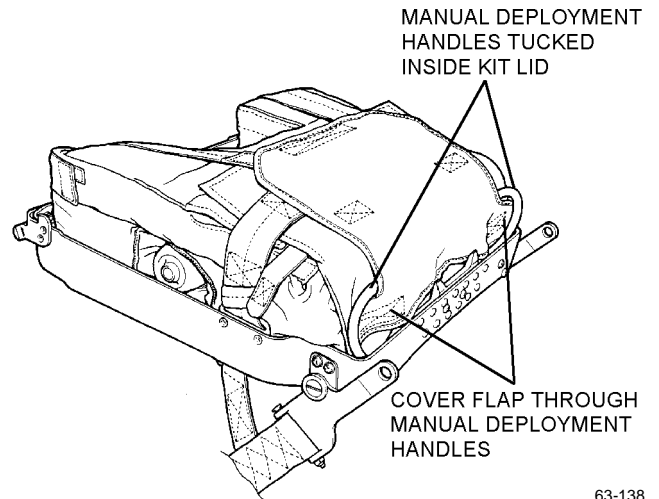
11. Using a 0-50-pound spring scale, check for movement of locking pins. Locking pins shall move when pull force, applied in either a right or left direction, is 30 pounds or less. If pull force is outside these limits, recheck packing and position of liferaft and rucksack in survival kit lid. Reinstall manual deployment handle and retest.

12. Safety tie both pins and cones by passing white thread, size A, single, under pin, around cone then securing thread to ripcord cable with three to four half hitches.



Step 12 - Para 8-40

13. Ensure pins are correctly installed, close cover, position manual deployment handle assembly at rear of rucksack, pass corner flaps of cover through handles, and secure cover hook and pile fasteners. Ensure handles are tucked inside lid.



Step 13 - Para 8-40

Section 8-4. Turnaround/Daily/Preflight/Postflight/Transfer/Special/Conditional Inspection

8-41. GENERAL.

8-42. TURNAROUND/DAILY/PREFLIGHT/POST-FLIGHT/TRANSFER INSPECTIONS. These are visual inspections performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. The inspections shall be performed by line personnel (plane captain) or delegated aircrewmembers who have been

instructed and qualified by the Aviators' Equipment Branch.

8-43. CONDITIONAL INSPECTION. This is an unscheduled inspection required as a result of a specific situation or set of conditions; e.g., hard-landing inspections or any inspection directed by a higher authority that is not ordered in a technical directive.

8-44. SPECIAL INSPECTION. This inspection is performed on in-service survival kits installed in air-

craft and in ready room issue. The inspection shall be performed at the Organizational Level of maintenance by personnel assigned to the Aviators' Equipment Branch. Completion and date of inspection shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

8-45. INSPECTION PROCEDURES. Procedures for these visual type inspections are as follows:

1. Seat cushion for torn fabric or stitching, improper alignment on seat and secure fasteners.
2. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters and lid attachment fittings.
3. Lapbelt release assemblies for loose or missing screws and corrosion.
4. Ensure lapbelt attachment fittings have limited rotation (off-aircraft check only).
5. Oxygen/communications hose assembly (including those portions of the hose assembly between the aircraft console, the seat kit lid assembly, and the aircrewman's chest mounted regulator) for secure attachment, positioning of the communication connec-

tion to the 10 o'clock position, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings. External communications lead for secure attachment.

6. Ensure oxygen gage indicates FULL.

7. Manual emergency oxygen actuation handle for security and deterioration.

8. Automatic emergency oxygen lanyard assembly, beacon actuator lanyard assembly, and lower coupling assembly for security of attachment, damage, and/or corrosion.

9. Lid assembly for cracks, breaks, or other obvious damage.

8-46. If discrepancies are found or suspected, Maintenance Control shall be notified.

8-47. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready For Issue (RFI) survival kit. Non-RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 8-5. Acceptance/Phased/SDLM/PDM Inspection

8-48. GENERAL.

8-49. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or at the time a reporting custodian accepts a newly assigned aircraft from any source, and on return of an aircraft from SDLM/PDM or other major D-level rework. The Phased/SDLM/PDM Inspection cycle of the survival kit shall be every 24 months. In no case, however, shall the phased interval exceed 728 days. The battery test inspection cycle for the AN/URT-33A Radio Beacon is dependent upon the type of the battery installed. Refer to NAVAIR 16-30URT33-1 for battery test inspection cycles and requirements. For acceptance inspection purposes, verification of pyrotechnics and configuration is accomplished by visual record examination only. Disassembly beyond the daily inspection requirements of ap-

plicable publications is not required. Activities may elect to increase the depth of inspection if equipment condition, visual external inspection, or record examination indicates such action is warranted.



Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the rucksack/survival package assembly or liferaft.

8-50. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Remove the seat cushion and rucksack and inspect for the following:

1. Seat cushion for stains, torn fabric; torn, loose, or frayed stitching and secure fasteners.
2. Lid assembly for structural damage, corrosion, damaged or deteriorated finish. All lid assembly attaching screws and connectors for disturbed tamper dots.
3. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters and attachment fittings.
4. Lapbelt release assembly for loose or missing screws and corrosion.
5. Lapbelt attachment fittings for limited rotation.
6. Oxygen/communications hose assembly (including those portions of the hose assembly between the aircraft console, the seat kit lid assembly, and the aircrewman's chest mounted regulator) for secure attachment, positioning of the communication connection to the 10 o'clock position, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings. External communications lead for secure attachment.
7. Oxygen cylinder for distortion and chipped paint.
8. Emergency oxygen system for contamination, corrosion, damaged oxygen gage, crimped cable housing.
9. Rucksack assembly for stains, torn stitching, damaged fabric, damaged or worn eyelets and locking cones, slide fastener for corrosion and damage.
10. Drop line for fraying and contamination. Measure length of dropline. Length of dropline shall be 26 feet 4 inches \pm 12 inches.
11. Manual deployment handle assembly for security of cables and pins, and for cuts and breaks. If cuts, abrasions, or breaks are superficial (no deeper than 0.065 inch, not longer than 1/2 inch), handle assembly is acceptable for installation. If cuts, breaks, or abrasions in the rubber expose underlying metal, replace handle assembly. Check security of yellow deployment handles.
12. Strap assemblies for frayed or torn webbing, torn stitching, damaged or loose eyelets and corroded fittings.

13. Automatic emergency oxygen lanyard assembly, beacon actuator assembly, and lower coupling assembly for security of attachment, damage, and/or corrosion

8-51. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of kit.

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) or 31TB1995-1 (CAGE 99251)
1	Dial Push/Pull Gage, 0-50 Pounds	DPP-50
1	Pin Punch, 3/32 inch	—

CAUTION

Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures, or damage to seat kit may result. After repair, entire test procedure shall be performed.

NOTE

Performance of the test stand (figure 8-7) is dependent upon the skill of the operator. Test stand operators shall be thoroughly familiar with the instruments, controls

NAVAIR 13-1-6.3-2

and connections of the systems incorporated in the test stand. Refer to NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 for details of operation of the 59A120 or 31TB1995 series liquid oxygen test stands.

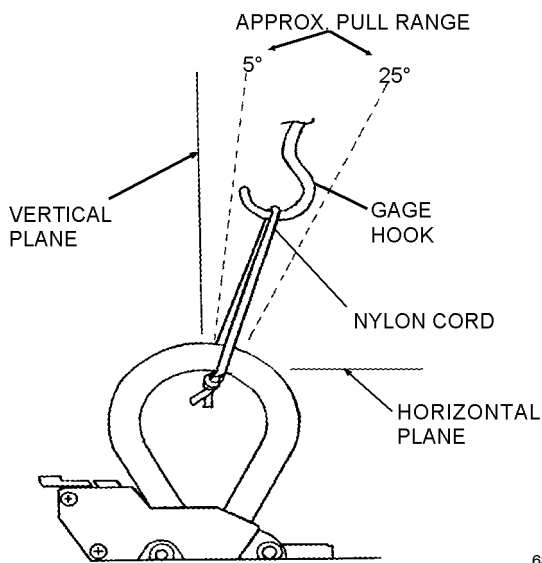
Emergency oxygen cylinder pressures used in this functional test were determined under ideal shop conditions of 70°F (21°C). Variations in ambient air temperature directly affect charging pressures. Refer to [table 8-5](#) for details.

Ensure that emergency oxygen cylinder is filled to 1800-2000 psi.

1. Remove bell jar and connect oxygen outlet hose of survival kit to fitting C-1 on test stand. Ensure that valve V-2 is open and all other test stand valves are closed ([figure 8-7](#)).

2. Thread approximately 10 inches of nylon cord through the manual emergency oxygen actuation handle and tie ends together.

a. Insert hook of push/pull gage in loop formed by nylon cord and pull at a 5 to 25 degree angle from the vertical plane toward rear of survival kit.



Step 2a - Para 8-51

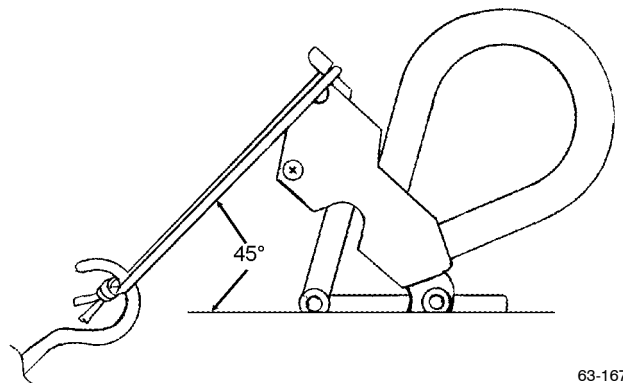
b. Measure force required to actuate manual oxygen actuation handle. Force required shall be 15 to 30 pounds. The emergency oxygen system shall actuate and indicate 30 to 90 psi on test stand gage PG-1.

3. Remove push/pull gage and nylon cord from manual actuation handle.

4. Using the 10-inch length of cord, form a loop using a binder knot and place loop over the push button arm (thumb lever) of the emergency oxygen manual actuation handle.

a. Position lid assembly on table with manual emergency oxygen actuation handle along the edge of the table.

b. Insert hook of push/pull gage in nylon cord loop placed over thumb lever of manual actuation handle and pull down and forward at about 45° angle.



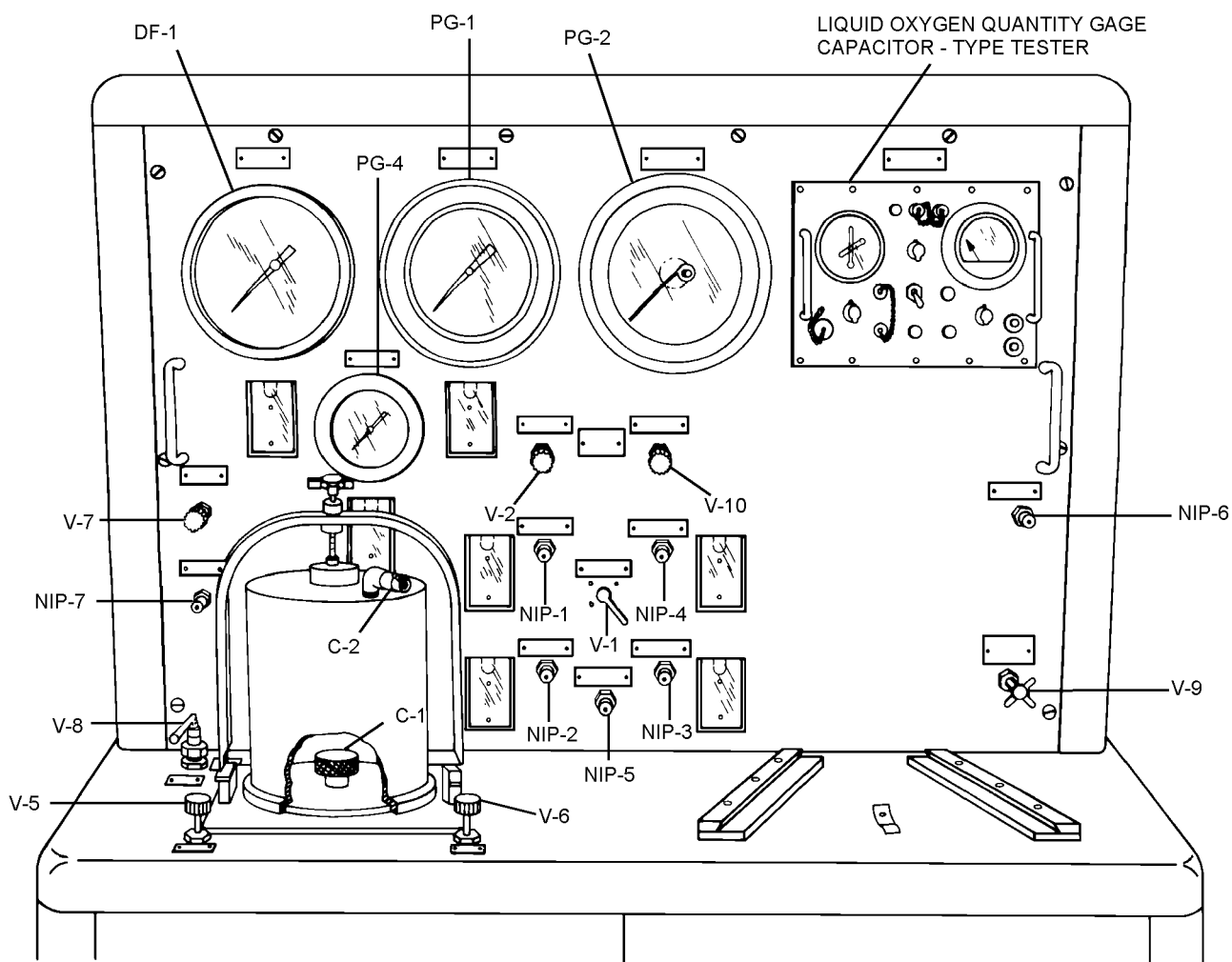
Step 4b - Para 8-51

c. Measure force required to reset manual oxygen handle using ON-OFF mechanism. Force required shall be 15 to 30 pounds.

d. Remove gage and nylon cord loop.

5. Turn on test stand oxygen supply cylinder.

6. Slowly open valve V-6 on test stand and adjust pressure on gage PG-1 to 90 psi.



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 – 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 – 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 – 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 – 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 – 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 – 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 – 160 PSIG TEST PRESSURE GAGE		

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Figure 8-7. Test Stand Model 59A120

NAVAIR 13-1-6.3-2

7. Actuate manual emergency oxygen actuation handle.

NOTE

Any degree of leakage in the oxygen system requires corrective maintenance.

8. Use leak detection compound to check all pressure lines and fittings on survival kit to ensure no leakage.

9. Reset manual oxygen actuation handle.



Do not increase pressure above 150 psi when unseating relief valve.

NOTE

Unseating can be determined by listening and observing pressure test gage PG-1 on test stand.

10. Using valve V-6, increase pressure until relief valve unseats.

NOTE

Pressure may be reduced below opening (unseating) pressure of the relief valve by closing valve V-6 and opening valve V-5.

11. Repeat step 10 several times to establish a correct pressure.

12. Relief valve shall unseat at 120 to 140 psi when pressure is increased and reseat at 110 psi minimum when pressure is decreased. Once relief valve is resealed, observe test pressure gage PG-1 to ensure that there is no indication of leakage (pressure drop).

13. Use leak detection compound to check relief valve for leaks. No leakage is allowed.

14. Close valve V-6 and bleed oxygen pressure from system by opening valve V-5. All pressure is bled when gage PG-1 indicates zero psi.

15. Close valve V-5.

16. Make sure valve V-2 is opened and all other test stand valves are closed.

17. If connected, disconnect beacon actuating lanyard from cable to lanyard assembly.

18. Attach push/pull gage to cable of automatic oxygen actuating lanyard assembly.

19. Position lid assembly so pull force can be applied to the automatic oxygen actuating lanyard in a downward direction to simulate ejection seat egress movement.

20. Measure force required to disengage automatic oxygen actuating lanyard assembly. Force required shall be 20 to 40 pounds, the emergency oxygen system shall actuate, and pressure test gage PG-1 shall indicate 30 to 90 psi.

21. Reset automatic actuation mechanism as follows:

a. Insert a 3/32-inch pin punch into the slot in cover of automatic emergency oxygen actuation mechanism and push slide forward (toward front of seat kit). Remove pin punch.

b. Insert ball end of emergency actuating lanyard into hole in front of release mechanism and push slide back.

c. Remove cap and reset cam mechanism through hole in lid by inserting screwdriver and pushing down to reset.

d. Reinstall cap

e. Visually check to insure swagged ball is seated properly in the automatic release slide while applying a slight pull on the cable-to-lanyard assembly to assure positive engagement.

22. Open valve V-5. Ensure that all other test stand valves are closed.

23. Actuate manual oxygen actuation handle assembly to ensure positive flow through valve V-5. Reset manual oxygen actuation handle.

24. Open valve V-8.

25. Slowly close valve V-5 while observing gage DF-1.

NOTE

Observe gage DF-1 for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires corrective maintenance.

26. Close valve V-8, open valve V-5, and disconnect oxygen outlet hose from fitting C-1.

27. Ensure all valves on test stand are secured.

28. Connect oxygen outlet hose to fitting NIP-6. Ensure that valve V-10 is open and all other test stand valves are closed.

29. Connect test stand hose to fittings NIP-5 and NIP-4.

30. Turn valve V-1 to NIP-4 position.

31. Ensure kit oxygen cylinder contains 1800 to 2000 psi oxygen pressure.

32. Pull manual oxygen actuation handle. Oxygen pressure on gage PG-1 shall indicate 30 to 90 psi.

33. Slowly open valve V-9 to indicate 90 LPM on flowmeter gage PG-2. Oxygen pressure shall indicate 30 to 90 psi on gage PG-1.

NOTE

When needle of kit cylinder pressure gage is between letters E and F of REFILL, pressure in cylinder is approximately 250 psi.

34. Observe kit emergency oxygen pressure gage and allow system pressure to decrease to 250 psi while maintaining 90 LPM and 30 to 90 psi.

35. Close valve V-9.

36. With zero pressure indicated on gage PG-2, pressure indicated on gage PG-1 shall be 30 to 90 psi.

37. Reset manual oxygen actuation handle to OFF position.

38. Bleed oxygen pressure from system by opening valves V-5 and V-2. All pressure is depleted when gages PG-1 and PG-4 indicate zero (0) psi.

39. Disconnect kit from test stand.

40. Secure test stand.

41. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

42. Recharge emergency oxygen cylinder to 1800 to 2000 psi oxygen pressure in accordance with [paragraph 8-52](#).

43. Perform electrical check of oxygen and communications hose assembly in accordance with NAVAIR 13-1-6.3-1. Check all elements of the hose assembly between the aircraft console, ejection seat survival kit assembly, and the aircrewman's chest mounted oxygen regulator.

8-52. PURGING AND CHARGING. Purge and charge the emergency oxygen cylinder as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nitrogen, Type I, Class 1, Grade B	BB-N-411
As Required	Aviators Breathing Oxygen, Type I	MIL-O-27210
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Adapter Set, Filler Valve or	T186C100-1 (CAGE 30941)
1	Adapter, Filling	21000-T130-1 (CAGE 53655)
1	Oxygen Purging Electric Heater or equivalent	C5378 (CAGE 96787)
1	Pressure Regulator	MIL-R-9198A

WARNING

Maintenance of emergency oxygen system shall be performed only after removal of survival kit from aircraft.

1. If survival kit has not been removed from the aircraft, remove kit from the aircraft in accordance with applicable maintenance manual prior to performing any maintenance on kit's emergency oxygen system.
2. Remove cushion assembly from survival kit assembly.

WARNING

If necessary to release pressure in oxygen bottle before purging or filling, pull emergency oxygen lanyard. This releases pressure through reducer/manifold. Do not release pressure through filler valve or adapter. Releasing high pressure oxygen through restriction of filler valve causes heat, possibly resulting in fire or explosion.

NOTE

- Use of filling adapter on SKU-10/A survival kit is optional.
3. Remove plug and filler valve cap assembly and connect filling adapter to filler valve (figure 8-8).

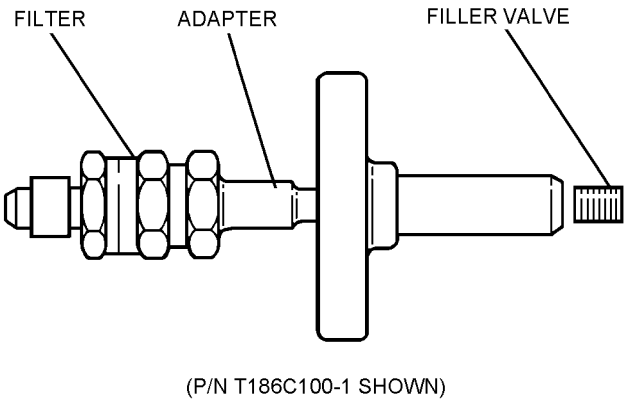


Figure 8-8. Filling Adapter

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NOTE

If the emergency oxygen system is contaminated, or the cylinder has remained empty for more than 2 hours, forward seat pan to AIMD for required purging. If the system or cylinder does not require purging, proceed to step 11 for charging sequence.

4. Deplete emergency oxygen cylinder if necessary.
5. Connect nitrogen source to filling adapter and close pressure reducer.

NOTE

If relief valve on Oxygen Purging Electric Heater will not allow 100 psi, raise pressure only to allowable limit.

6. Slowly pressurize to 100 psi with nitrogen at a temperature of 110 to 130°C (230 to 266°F) using electric heater.
7. Turn off nitrogen source and deplete oxygen cylinder.
8. Repeat steps 6 and 7 twice.
9. With pressure reducer open, turn on nitrogen source and purge for 10 minutes at a temperature of 110 to 130°C (230 to 266°F).
10. Turn off nitrogen source and disconnect.

11. Connect oxygen source to filling adapter with suitable pressure regulator and shut-off valve. Reset ON/OFF or lanyard activation mechanism as appropriate.

WARNING

Observe filling stages, as rapid application of oxygen pressure creates heat which may result in fire or explosion.

Allow no less than 3 minutes for each filling stage and 2 minute intervals for cooling between stages.

12. Slowly pressurize to 100 psi.

13. Deplete cylinder to 50 psi.

NOTE

(AIMD Only) If kit is to be stored, the emergency oxygen bottle shall be depleted, or filled, to 200 PSI (when needle on gage bisects E of REFILL). For shipping, fill to 25 PSI using the pressure gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with [table 8-4](#) until pressure gage indicates correct pressure for existing ambient temperature ([table 8-5](#)).

15. Loosen oxygen filler adapter until all pressure is bled from high-pressure line. Remove filling adapter.

WARNING

Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Also compound exhibiting peculiar odors such as acetone or alcohol is considered contaminated and shall be disposed of.

NOTE

Alternate Fill Valve P/N 9120097-27 is coreless and has a maximum leakage rate of 1 cc/hr. This will be evident by very tiny bubbles passing through the top of the valve when leak detection compound is applied level to top rim. No leaks around threads are acceptable. If large bubbles are evident, contact survival kit FST for disposition.

16. Examine leak detection compound then apply around connection points of oxygen gage, reducer, and filler valve. Check for leaks. Then thoroughly wipe clean and dry with lint-free cloth, filtered low-pressure compressed air, or low pressure oxygen.

17. Reinstall oxygen filler valve cap on filler valve. Filler valve cap should be hand tight only.

18. Reinstall plug and filler valve cap assembly.

19. Reinstall cushion assembly on survival kit.

20. If survival kit assembly was removed from aircraft in [step 1](#), reinstall survival kit in accordance with applicable maintenance manual.

Table 8-4. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

Table 8-5. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

Section 8-6. Maintenance

8-53. GENERAL.

WARNING

Keep working area clean and free from oil, grease and dirt. Do not attempt to perform any component removal with the oxygen system pressurized.

Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the survival package assembly or liferaft.

8-54. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment. Disassemble only to extent required to perform task. Work shall be performed in a clean, dust- and grease-free area.

8-55. TROUBLESHOOTING.

8-56. When malfunctions or other operating problems are encountered, locate probable cause and remedy using [table 8-6](#).

8-57. DISASSEMBLY.

8-58. UNPACKING SURVIVAL KIT. Refer to [figure 8-9](#) and unpack survival kit as follows:

1. Remove oxygen/communications lead assembly. Install dust covers on lead assembly and kit connectors.

1A. Disconnect beacon radio lanyard from radio (not pictured).

2. Place kit upside down on table, rear of kit toward packer.

3. Separate hook and pile fasteners (1) and lift cover flap (2) enclosing manual deployment (yellow) handles (8).

4. Carefully withdraw closure pins (6) from cones (7) of front closure flap (3) and remove manual deployment handles (8).

5. Remove side strap lugs (LH/RH) (5) from front closure flap cones and front strap loops.

6. Remove aft strap double lug (9) from cones (7) and open rear, front and side closure flaps to expose liferaft.

CAUTION

Use caution when removing liferaft from kit to ensure that inflation valve is not inadvertently actuated causing inflation of liferaft.

7. Carefully remove liferaft from rucksack.

8. Remove thread safety tie and disconnect valve actuating line from actuating valve pull cable loop.

9. Remove 6-cord safety tie and disconnect drop-line from CO₂ cylinder neck.

10. Release hook and pile fastener on survival items stowage pockets, fold flap downward and open zip fastener.

11. Remove survival items from stowage and disconnect retaining line from loop in center of rucksack.

12. Remove rucksack from kit lid assembly.

8-59. SURVIVAL KIT DISASSEMBLY. Disassemble survival kit in the order indicated, using index numbers in [figure 8-9](#) as reference.

Table 8-6. Troubleshooting

Trouble	Probable Cause	Remedy
Low or zero indication.	System empty.	Charge system (paragraph 8-52).
	Defective gage.	Replace gage.
	Leaking components.	Tighten connections or replace.
Oxygen system output pressure not within 30 to 90 psig limits.	Defective pressure reducer.	Replace reducer.
	Pressure reducer out of adjustment.	Adjust reducer (paragraph 8-97).
Relief valve leaking.	Dirty or defective relief valve.	Replace relief valve.
	Defective quadring.	Replace relief valve.
Relief valve does not unseat within tolerance of 120 to 140 psi when simulated pressure is applied during test.	Defective relief valve.	Replace relief valve.
No oxygen flow at kit-to-man hose from aircraft system (emergency oxygen system not actuated).	Defective outlet manifold.	Replace outlet manifold.
No oxygen output pressure with pressure reducer actuated.	Defective oxygen gage.	Replace gage and charge cylinder.
	Foreign matter in output flow path.	Bleed system, disassemble, clean, purge and recharge (paragraph 8-52).
	Weak or broken spring in pressure reducer.	Replace reducer (paragraph 8-88).
	Pressure reducer out of adjustment.	Adjust (paragraph 8-97).
Pulsating pressure at outlet port.	Pressure reducer out of adjustment.	Adjust (paragraph 8-97).
Oxygen system leaking; low pressure side of reducer.	Loose Fittings.	Tighten as required.
Oxygen system leaking; high pressure side of reducer.	Defective O-ring or backup ring.	Replace reducer.
Pressure reducer will not shut off.	Defective pressure reducer.	Replace reducer.
Manual emergency oxygen does not actuate (Pull up) or reset (Push down) within a tolerance of 15 to 30 pounds.	Crushed cable/conduit assy.	Replace cable/conduit assy.
No oxygen flow at kit-to-man hose when emergency oxygen system is actuated by automatic lanyard.	Automatic actuation cable pulls free of release assembly before reducer is actuated.	Adjust emergency oxygen automatic actuation assembly (paragraph 8-98).
Unable to obtain proper adjustment of lapbelt assembly.	Faulty lapbelt adjuster.	Inspect/replace lapbelt adjuster (paragraph 8-77).

Table 8-6. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Unable to obtain proper adjustment of lapbelt assembly. (cont)	Improper routing of webbing.	Disassemble lapbelt assembly (paragraph 8-77) and reassemble correctly.
	Dirt/grease on slides.	Disassemble lapbelt assembly (paragraph 8-77) and clean slides using clean, dry cloth. Reassemble lapbelt adjuster.
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors.	Perform electrical check (NAVAIR 13-1-6.3-1). Replace oxygen/communication hose assembly as required.
	Open or short circuit in oxygen hose wiring.	
Pull force to deploy kit is not within a tolerance of 20 ±10 lbs.	Survival kit not properly packed.	Repack survival kit.
	Heavily burred release pin.	Replace manual deployment handle assembly.

NOTE

Support Equipment Required

Discard all O-rings, cotter pins, seals, and teflon tape from oxygen connections during disassembly.

8-60. Determine area of malfunction using [table 8-6](#) and disassemble only to the extent required to adjust or replace malfunctioning component.

Quantity	Description	Reference Number
1	Drive Pin Punch, 1/16 inch	—

NOTE

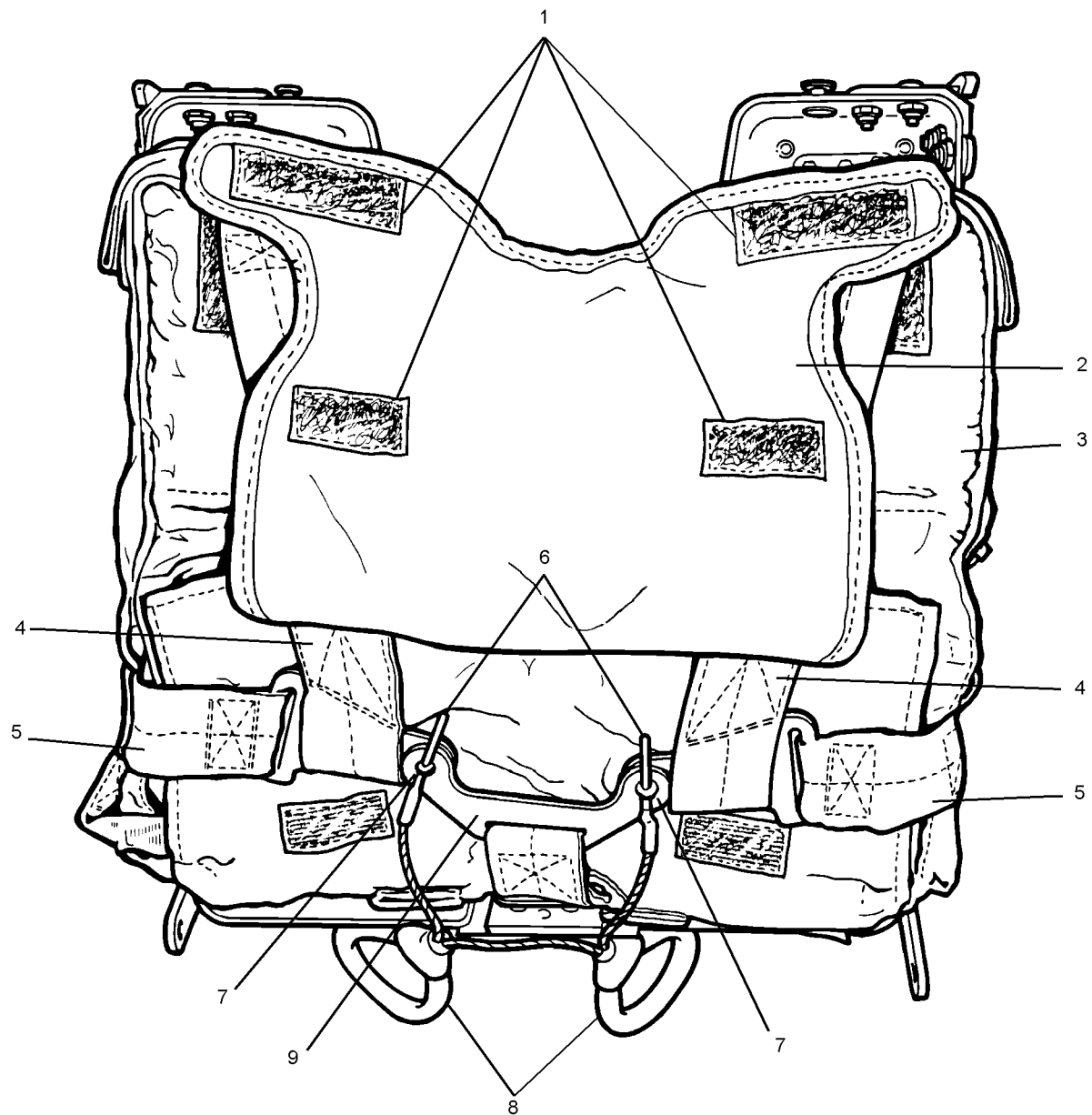
If the cylinder is completely discharged, it may require purging prior to charging. Refer to [paragraph 8-52](#).

WARNING

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in minute quantities, coming in contact with oxygen can cause explosion or fire. Dust, lint and fine metal particles are also dangerous.

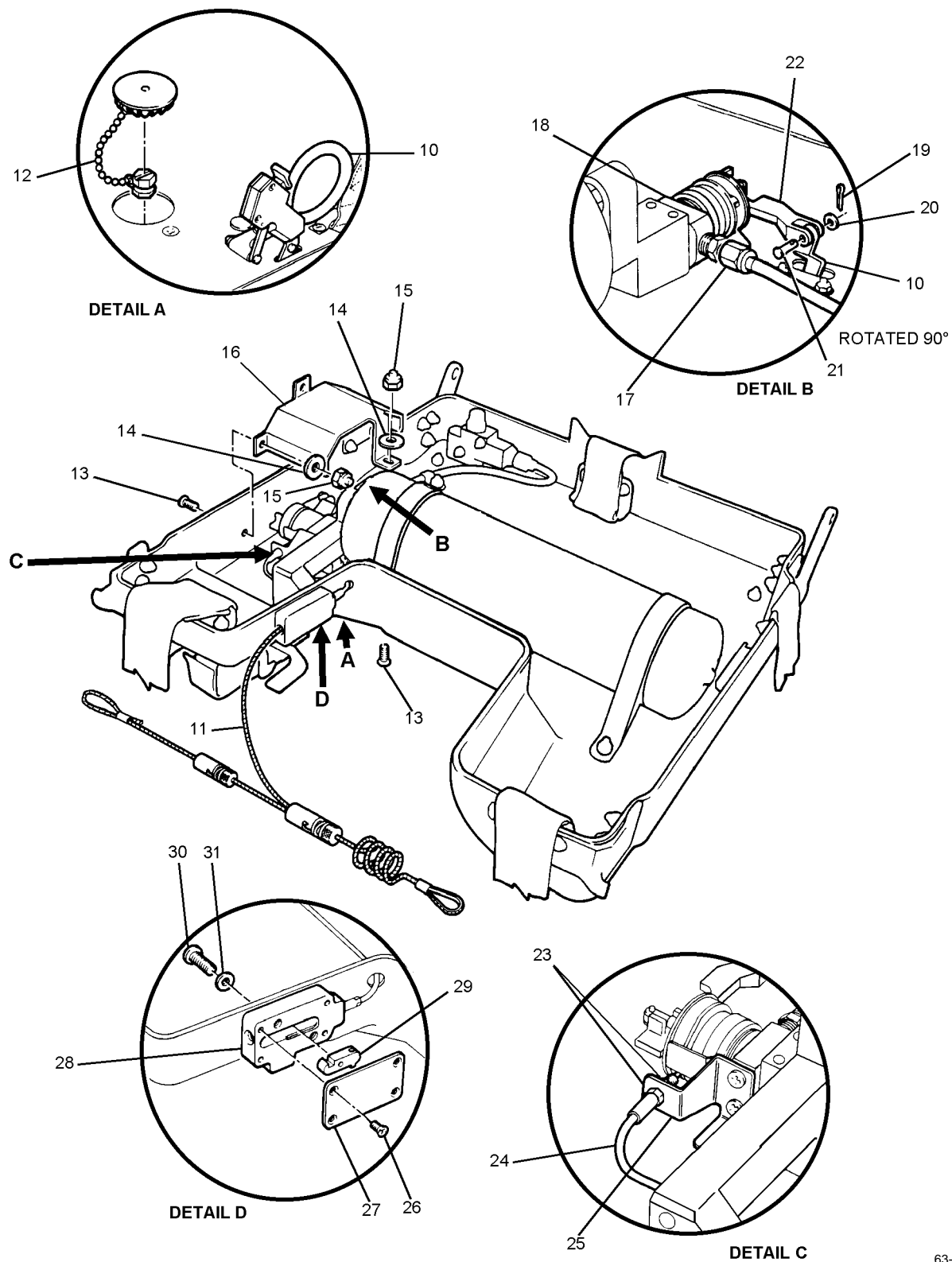
8-61. LID ASSEMBLY. Refer to [figure 8-9](#) and disassemble lid assembly as follows:

- 1. Actuate emergency oxygen actuation handle (10) to discharge the cylinder as required.
- 2. Pull and remove automatic actuating lanyard assembly (11).
- 3. Remove filler valve plug and cap assembly (12).
- 4. Remove four attaching screws (13), washers (14) and cap nuts (15) and remove pressure reducer assembly cover (16) from lid assembly.



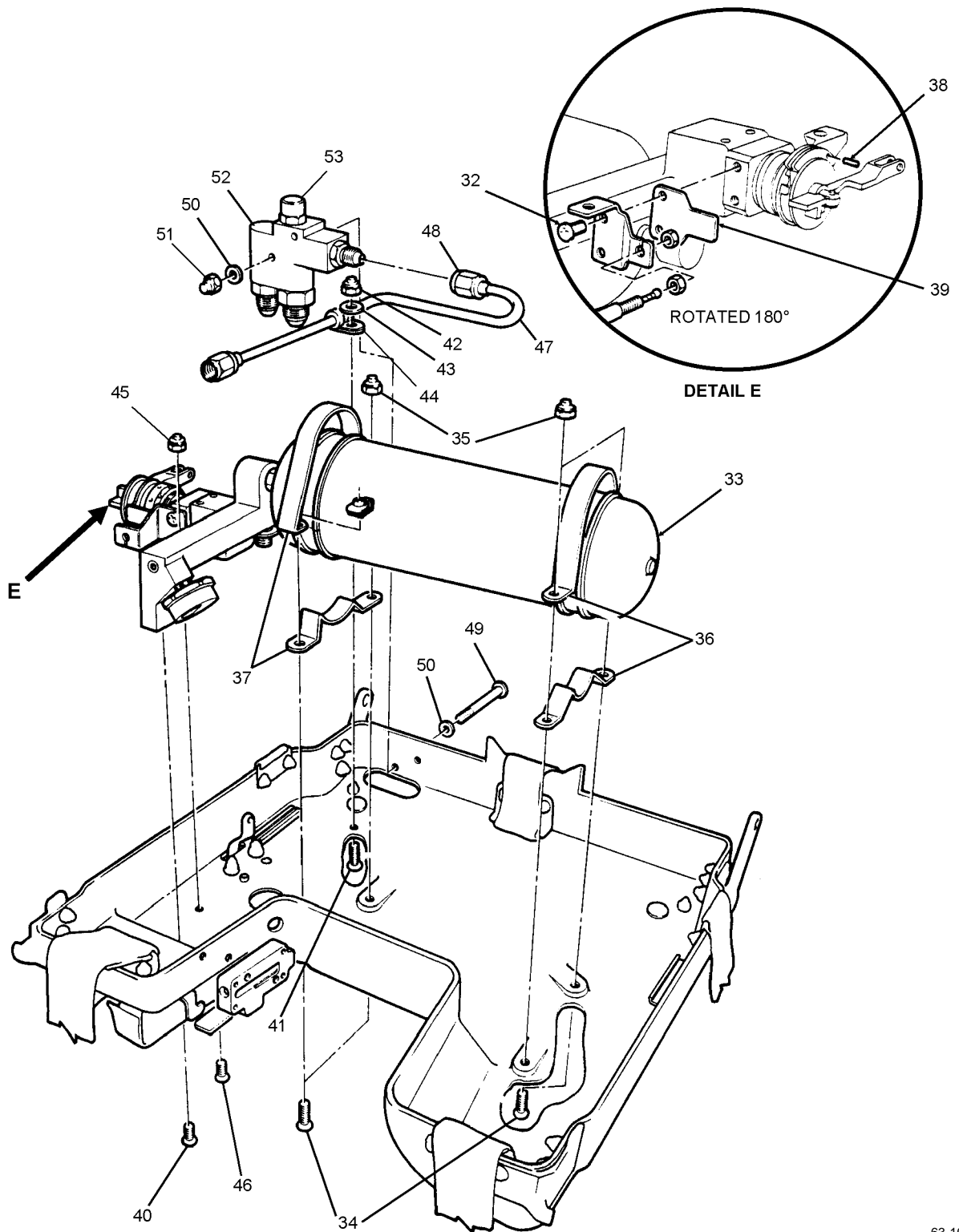
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Figure 8-9. SKU-10/A Seat Survival Kit Components (Sheet 1 of 4)



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Figure 8-9. SKU-10/A Seat Survival Kit Components (Sheet 2 of 4)



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Figure 8-9. SKU-10/A Seat Survival Kit Components (Sheet 3 of 4)

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- | | |
|--|---|
| 1. HOOK AND PILE FASTENER | 27. COVER, AUTOMATIC RELEASE ASSEMBLY |
| 2. COVER FLAP | 28. HOUSING, AUTOMATIC RELEASE ASSEMBLY |
| 3. FRONT CLOSURE FLAP | 29. SLIDE, AUTOMATIC RELEASE ASSEMBLY |
| 4. FORWARD STRAP ASSEMBLY | 30. SCREW |
| 5. SIDE STRAP ASSEMBLY | 31. WASHER |
| 6. CLOSURE PINS | 32. SCREW |
| 7. CONES, FRONT CLOSURE FLAP | 33. EMERGENCY OXYGEN CYLINDER ASSEMBLY |
| 8. MANUAL DEPLOYMENT HANDLES | 34. SCREW |
| 9. AFT STRAP DOUBLE LUG ASSEMBLY | 35. CAPNUT |
| 10. EMERGENCY OXYGEN MANUAL ACTUATION HANDLE | 36. CYLINDER CLAMP ASSEMBLY |
| 11. AUTOMATIC ACTUATING LANYARD | 37. CYLINDER CLAMP ASSEMBLY |
| 12. PLUG AND CAP ASSEMBLY | 38. SPRING PIN |
| 13. SCREW | 39. CANTILEVER SPRING |
| 14. WASHER | 40. SCREW |
| 15. CAP NUT | 41. SCREW |
| 16. COVER | 42. CAPNUT |
| 17. NUT, LOW PRESSURE TUBE UNION | 43. WASHER |
| 18. PRESSURE REDUCER ASSEMBLY | 44. CLAMP |
| 19. COTTER PIN | 45. CAPNUT |
| 20. WASHER | 46. SCREW |
| 21. PIN, STRAIGHT (THREADED) | 47. LOW PRESSURE TUBE ASSEMBLY |
| 22. SEAR | 48. NUT, LOW PRESSURE TUBE UNION |
| 23. NUT, SPECIAL RETAINER | 49. BOLT |
| 24. CONDUIT, AUTOMATIC ACTUATION | 50. WASHER |
| 25. CONDUIT BRACKET | 51. CAPNUT |
| 26. SCREW | 52. LOW PRESSURE MANIFOLD |
| | 53. RELIEF VALVE |

INDEX LEGEND

Figure 8-9. SKU-10/A Seat Survival Kit Components (Sheet 4 of 4)

5. Disconnect low pressure tube union nut (17) from pressure reducer (18).

6. Remove cotter pin (19), washer (20) and threaded pin (21) connecting pressure reducer sear (22) to emergency oxygen actuation handle assembly (10).

7. Loosen, but do not remove, retention nuts (23) securing automatic actuation conduit assembly (24) to conduit bracket (25).

8. Remove four attaching screws (26) from automatic release housing cover (27) and remove cover and slide (29) from housing (28).

9. Remove two attaching screws (30) and washers (31) which secure automatic release housing (28) to lid assembly.



On completion of the following step, the emergency oxygen system will no longer be fastened to the lid assembly. Any undue movement of the oxygen system may damage the automatic actuation conduit.

10. Remove conduit bracket screws (32), manifold screw (40), and four cylinder clamp screws (34) and cap nuts (35) from clamps (36) and (37).

11. Remove conduit bracket screw (46) and cap nut (45).

12. Carefully move oxygen cylinder assembly (33) so automatic release housing (28) can be removed from conduit (24) and lid assembly.



The pressure reducer assembly (18) shall not be disassembled. A malfunctioning reducer shall be replaced if malfunction cannot be corrected by adjustment.

13. Remove oxygen cylinder assembly (33) from the lid assembly.

14. Using a 1/16-inch pin punch, remove spring pin (38) retaining automatic actuation cable in reducer automatic actuation cam.

15. Remove automatic actuation conduit special retaining nuts (23).

16. Remove automatic actuation conduit assembly (24).

17. Remove conduit bracket (25) and cantilever spring (39).

18. Remove screw (41), washer (43) and cap nut (42) from clamp (44) securing low pressure tube assembly (47) to lid assembly.

19. Disconnect low pressure tube assembly union (48) and remove tube assembly (47).

20. Remove two attaching bolts (49), washers (50) and cap nuts (51) and remove low pressure manifold (52) from lid assembly.

8-62. CLEANING.

8-63. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.

8-64. Seat Cushions and Fabric Components. Clean seat cushions and all fabric components as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16791 NIIN 00-282-9699
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

NOTE

If using cleaning compound (MIL-C-25769) combine one part compound with three parts water. If using general purpose detergent, follow the instructions on the container.

1. Prepare detergent or cleaning compound (MIL-C-25769) solution.

2. Apply solution to soiled area with spray or sponge.

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- 3. Allow solution to remain on surface for a few minutes, then scrub with soft brush or cloth.
- 4. Rinse surface thoroughly with water; wipe with cloth or sponge.
- 5. Repeat steps 1 thru 4 until material is clean.
- 6. Repeat step 4 until material is free of all solution.
- 7. Allow material to dry thoroughly.

NOTE

If survival kit seat cushion cover can not be thoroughly cleaned using above instructions, replacement of cushion top cover panel is authorized on a one-time only basis for each seat cushion assembly. Refer to paragraph 8-75 for replacement instructions.

8-65. INSPECTION.

8-66. SURVIVAL ITEMS. Inspect in accordance with NAVAIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

8-67. DISASSEMBLED PARTS. Inspect disassembled parts as detailed in table 8-7.

8-68. REPAIR AND REPLACEMENT.

8-69. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

8-70. All individual components that fail to pass inspection shall be replaced except where repair procedure is indicated. Refer to source code listing (SM&R code) in the Numerical Index of the Illustrated Parts Breakdown to aid in determining replaceable components. All adjustable components and other assemblies that fail to pass respective tests and cannot be adjusted to meet required specifications shall be replaced.

8-71. SEAT CUSHION ASSEMBLY - REPAIR AND REPLACEMENT. Repair/replace the seat cushion as follows:

8-72. Removal.

- 1. Disconnect front snap fasteners by lifting at top edge and pulling away (Pull-the-Dot type snap fastener).
- 2. Disconnect aft snap fasteners by lifting at aft edge and pulling away (Pull-the-Dot type snap fastener).
- 3. Pull radio beacon antenna from fabric channel on underside of cushion and remove cushion from aircraft.
- 4. Inspect replacement cushion for damage, fraying and security of snap fasteners.

8-73. Repair. General repair of cushion assembly is limited to sewing loose or open seams, broken stitches and small rips and tears. Replacement of top cover panel of seat cushion is authorized one time only for each seat cushion assembly in accordance with paragraph 8-75.

8-74. Installation.

- 1. Insert radio beacon antenna into fabric channel on underside of cushion.
- 2. Make sure antenna does not become dislodged from beacon and position cushion on lid assembly.
- 3. Engage front edge of aft snap fasteners and press down to engage. Lift gently to check proper connection.
- 4. Engage lower edge of front snap fasteners and press down to engage. Lift gently to check proper connection.

8-75. REPLACEMENT OF SEAT CUSHION COVER TOP PANEL. Replacement of seat cushion is authorized one time only for each seat cushion assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cloth, Type II, Class 1, Color USAF 1590 Sage Green	MIL-C-83429 NIIN 00-147-2064

Table 8-7. Inspection

Component	Task
Cushion Assembly (Figure 8-16)	Inspect fabric for wear, tears, stains, frayed edges and loose or broken stitches.
	Inspect for deteriorated padding.
	Inspect for security of snap fasteners on front and rear of cushion.
	Check for wear or breakdown of cushion foam and replace as required.
Rucksack Assembly (Figure 8-16)	Inspect slide fastener for security of attachment and smooth operation.
	Inspect fabric for wear, tears, stains, frayed edges and loose or broken stitching.
	Ensure that hook and pile fasteners are firmly attached to rucksack assembly flaps.
	Check for presence and secure attachment of cones and eyelets.
	Inspect dropline assembly for wear, tears, stains, fraying, loose or broken stitches.
	Measure overall length of dropline. Overall length shall be 26 ft 4 in. ± 12 in.
	Inspect retaining lanyard for wear, tears, stains, fraying, loose or broken stitching.
AN/URT-33A Radio Beacon	Inspect in accordance with NAVAIR 16-30URT33-1.
Manual Deployment Handle Assembly (Figure 8-16)	Inspect handles for cuts and breaks.
	Inspect release pins for excessive burrs and secure attachment.
	Inspect cable for wear, fraying, loose or broken strands and secure swagings.
Harness Assembly (Figure 8-19)	Inspect webbing for stains, wear, tears, fraying and loose or broken stitches.
	Inspect harness adjusters and covers for cracks around attachment screws.
	Inspect harness adjusters for damage and wear, corrosion, scratches penetrating finish, loose attachment and weak release springs.
	Inspect adjuster release tabs for stains, wear and loose or broken stitches.
	Inspect release fittings for damage, wear, corrosion, loose attachment, weak springs and correct operation.
	Inspect rear fittings and other metal hardware for proper attachment.

Table 8-7. Inspection (Cont)

Component	Task
Strap Assemblies (Figure 8-19) (Note 1)	Inspect strap assemblies for stain, wear, tears, fraying and loose or broken stitches.
	Inspect strap fittings for wear, corrosion and scratches penetrating finish.
Radio Beacon Bracket (Figure 8-19)	Inspect for damage, worn, torn, frayed or loose hook and pile fastener and scratches penetrating finish.
Beacon Actuator Lanyard Assembly (Figure 8-19)	Inspect beacon lanyard for damage and security of swaged ends.
Cable-to-Lanyard Assembly and Lower Cable Assembly (Figure 8-16)	Inspect cable for fraying, broken strands and security of swaged balls.
	Inspect cable sleeve for wear, breaks and distortion.
Conduit Assembly (Figure 8-17)	Inspect cable for wear, fraying, and security of swagged balls.
	Inspect for dents.
	Inspect adjuster threads for damage.
	Ensure cable moves freely in conduit.
Oxygen Actuation Assembly (Figure 8-16)	Operate handle and ensure freedom of movement.
Housing, Automatic Release Assembly (Figure 8-14)	Inspect for damage around contour end of threads.
Lid Assembly (Figure 8-13)	Inspect for damage; dents, gouges and scratches penetrating finish.
Miscellaneous Hardware and Attaching Parts	Inspect threaded parts for damaged or stripped threads.
	Inspect nuts for rounded hexagon flats.
	Inspect washers and spacers for damage and elongated holes.
	Inspect self-locking bolts for damaged or worn locking devices (nylon pellets).
Low Pressure Manifold Assembly (Figure 8-14)	Inspect body ports and threads for damage.
	Inspect connectors for damaged threads and rounded hexagon flats.
	Inspect relief valve for damaged threads and rounded hexagon flats.
	Ensure integral filter present and secure in threaded shaft.
Emergency Oxygen Assembly (Figure 8-14)	Inspect cylinder for cracks, nicks, gouges, deep scratches, bulges or dents.
	Inspect filler valve for presence of valve cap, damaged threads and leakage around valve core.
	Inspect high pressure manifold ports and threads for damage.

Table 8-7. Inspection (Cont)

Component	Task
Emergency Oxygen Assembly (Figure 8-14) (cont)	Inspect oxygen gage for cracked or missing glass, bent needle, legible dial, security, damaged threads and rounded corners on hexagon flats.
	Ensure integral filter present and secure in threaded shaft.
Pressure Reducer Assembly (Figure 8-15)	Inspect automatic actuation cam and sear cam for galling of contact surfaces (figure 8-12).
	Inspect reducer body for damage and threads on outlet fitting for damage.
	Inspect adjusting cap and lock ring (figure 8-12) for damaged adjusting holes and tamper dots for presence and integrity (figure 8-11).
Notes: 1. There are five strap assemblies, two side, two forward, and one aft.	

1. Remove foam cushion from cushion cover assembly.

2. Turn cover inside out.



Take care not to damage gusset portion of seat cushion cover. If gusset is ripped, torn, or worn, a new cushion assembly must be procured.

3. Remove top panel portion of cover assembly by removing stitching. Retain gusset and bottom portion of cushion cover assembly, which should remain attached to each other.

4. Spread required amount of MIL-C-83429 cloth on flat surface. Using top panel of cover assembly as a template, trace around template $3/8 \pm 1/8$ inch from its edge to form pattern for new top panel.

5. Cut out new cushion cover top panel.

NOTE

Stitching used shall be FED STD 731, Type 301 LOCKSTITCH, with minimum backstitching of 1/2 inch, using 6 to 8 stitches per inch.

6. Ensure gusset and bottom portion of cushion cover is inside out. Sew new cushion cover top panel to gusset and attached bottom portion of cover assembly keeping seam 3/8 inch from edge.

7. Topstitch both top panel and gusset to prevent fraying. Topstitching will be visible when cushion cover assembly is turned right side out.

8. Reinstall cushion foam into cover assembly. Ensure cushion cover fits foam in same manner as original cover.

8-76. RADIO BEACON AN/URT-33A REPLACEMENT.

Replace the radio beacon as follows:

1. Unsnap left thigh cushion and fold back.

2. Remove radio beacon from bracket.

3. Place radio beacon slide switch in OFF position.

4. Remove flexible antenna from receptacle by pushing bayonet fitting in and rotating to the left (counterclockwise).

5. Forward beacon to appropriate level maintenance facility.

6. Obtain RFI beacon and inspect for damage.

NOTE

Refer to [paragraph 8-32](#) to determine if replacement beacon has been modified.

7. Refer to [paragraph 8-32](#) for rigging and packing procedures of beacon.

8. Reattach snap fastener of left thigh cushion.

8-77. REPLACEMENT OF RESTRAINT HARNESS LAPBELT ADJUSTER. Replace restraint harness lapbelt adjuster as follows:

Materials Required

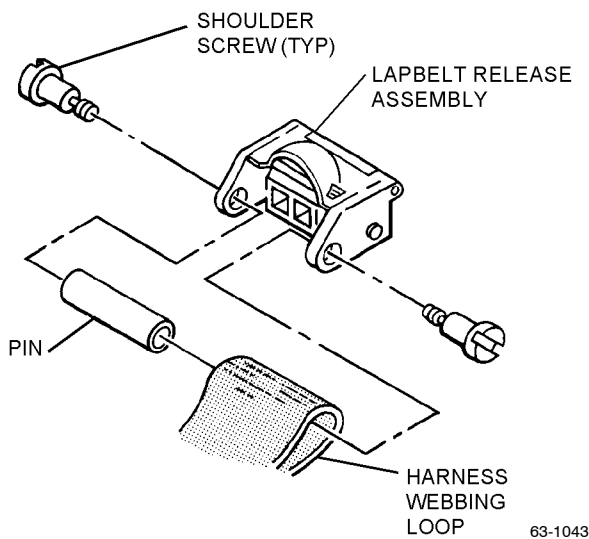
Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

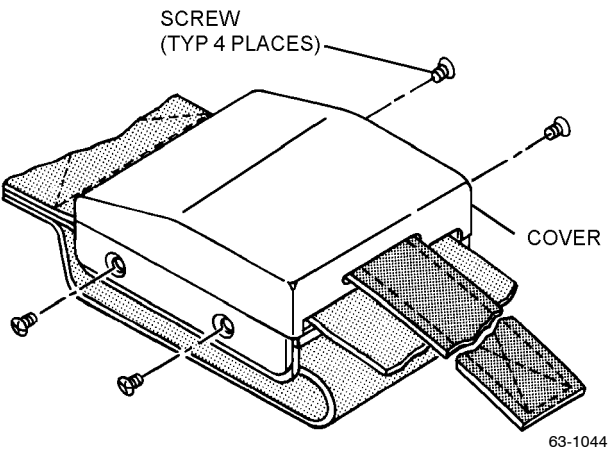
These replacement procedures may be used on either right or left side restraint harness assemblies.

1. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing and slide pin out of harness webbing loop. Retain all parts.



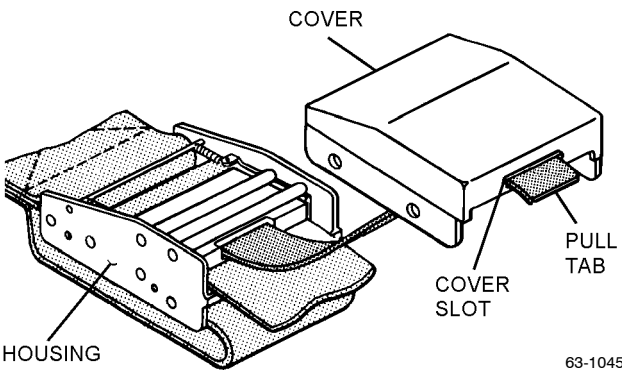
Step 1 - Para 8-77

a. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



Step 1a - Para 8-77

b. Remove cover from lapbelt adjuster housing and slide pull tab through cover slot.

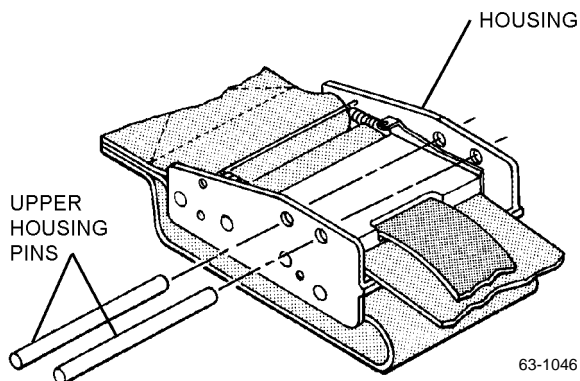


Step 1b - Para 8-77

c. Slide upper housing pins out of housing.

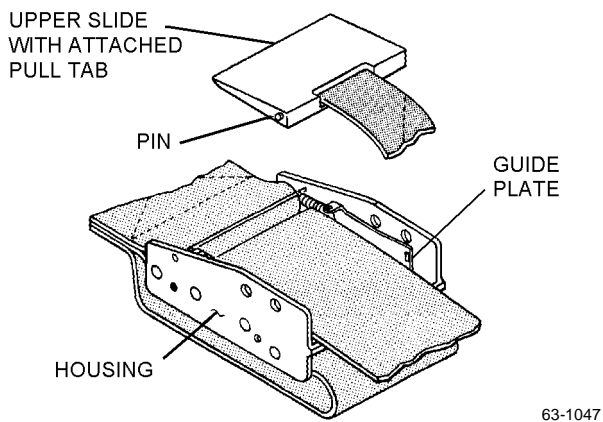
NOTE

Slide is held to guide plate by pins. Pull slide up so guide plates are above edge of housing and rotate slide out of guide plates.



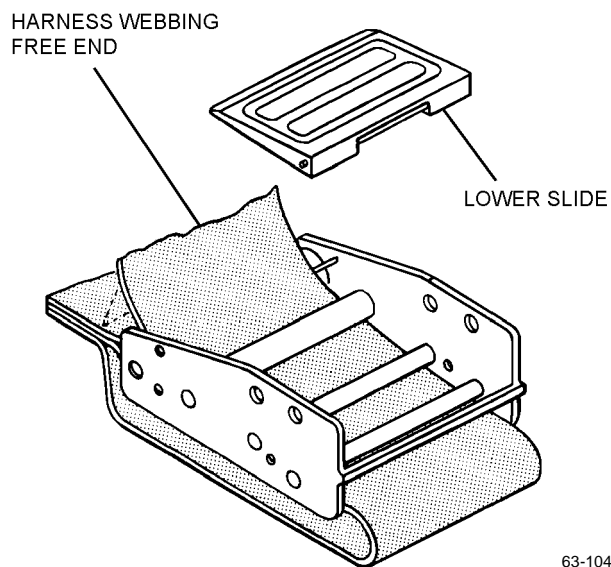
Step 1c - Para 8-77

d. Remove upper slide with attached pull tab.



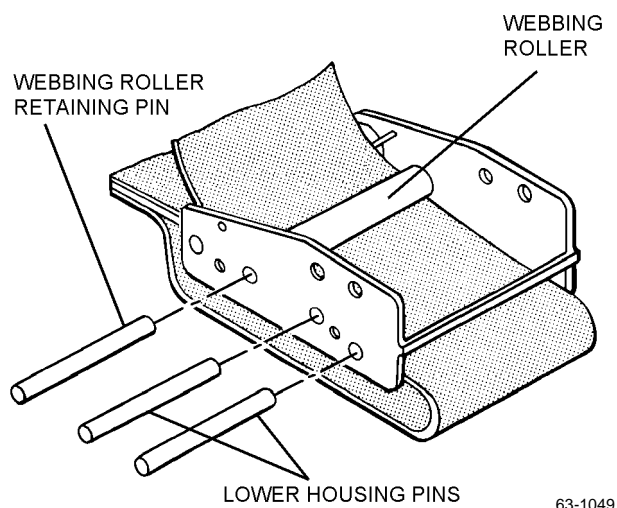
Step 1d - Para 8-77

e. Lift free end of harness webbing and remove lower slide.



Step 1e - Para 8-77

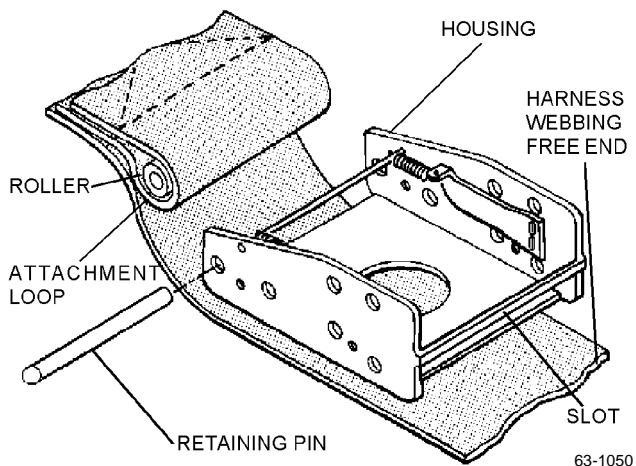
f. Position guide plates up and out of the way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



Step 1f - Para 8-77

NAVAIR 13-1-6.3-2

g. Pull free end of harness webbing through slot in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



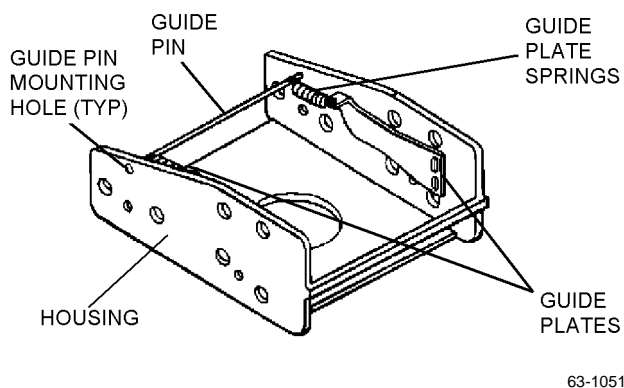
Step 1g - Para 8-77

2. Install lapbelt adjuster as follows:

NOTE

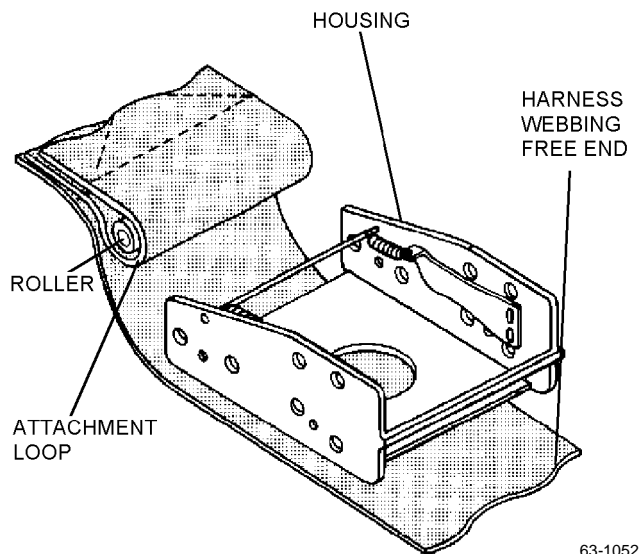
The six pins (two retaining and four housing) are interchangeable. The two rollers are interchangeable.

a. If required, slide guide plate springs on to guide pin and ensure guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



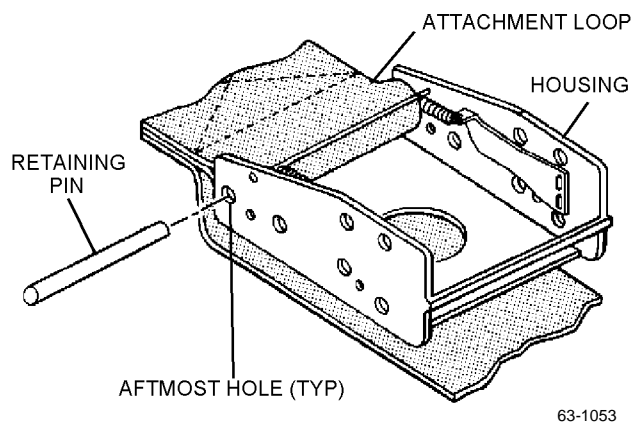
Step 2a - Para 8-77

b. Insert roller into attachment loop of harness webbing. Place adjuster housing on to free end of harness webbing so that aft end of housing faces attachment loop.



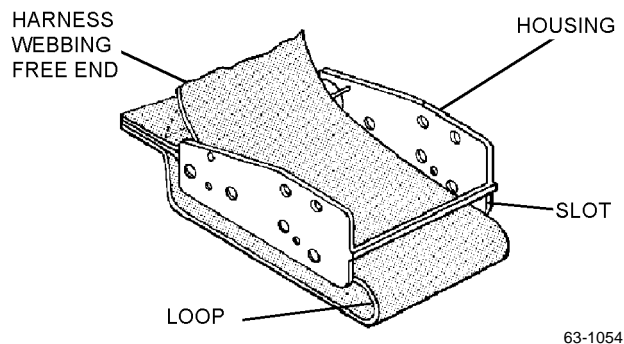
Step 2b - Para 8-77

c. Position housing on to attachment loop and roller. Align hole through roller with aftmost holes in housing and install retaining pin.



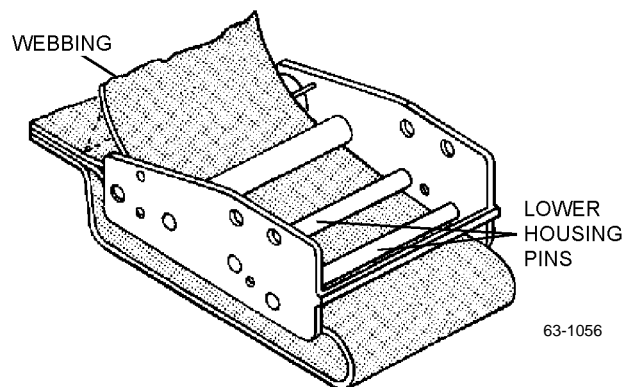
Step 2c - Para 8-77

d. Fold free end of webbing back towards housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.



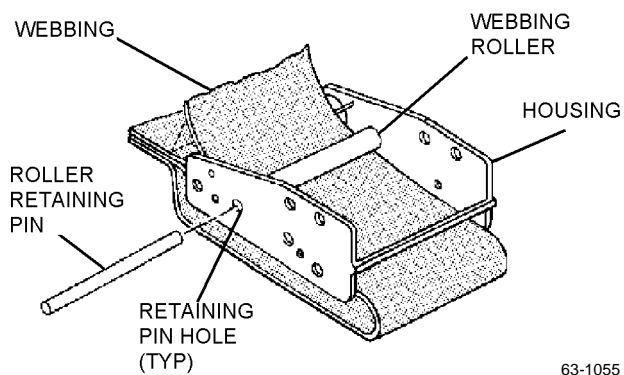
Step 2d - Para 8-77

f. Insert lower housing pins. Ensure that pins are resting on top of webbing.



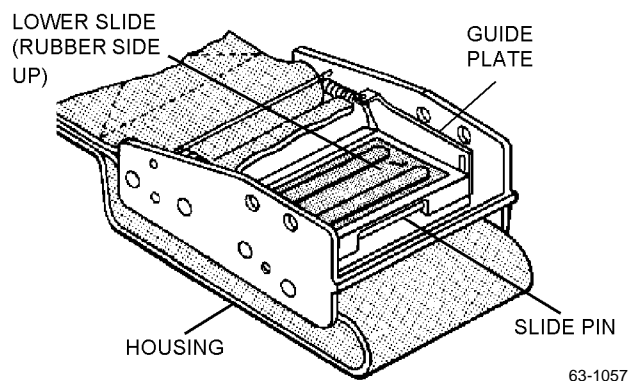
Step 2f - Para 8-77

e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing and insert roller retaining pin.



Step 2e - Para 8-77

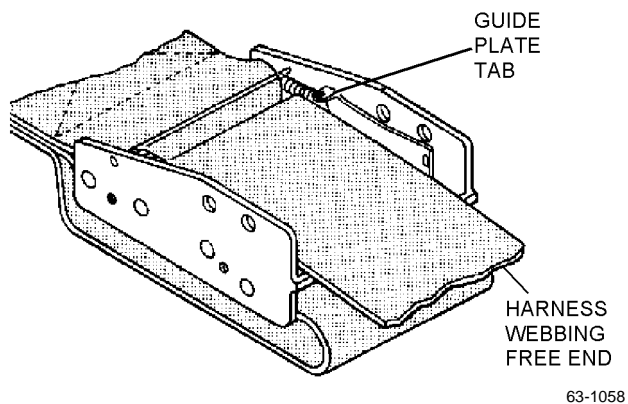
g. Position guide plates into housing on top of lower housing pins. Install lower slide, rubber side up. Ensure that slide pin is correctly positioned into lower slot of guide plates.



Step 2g - Para 8-77

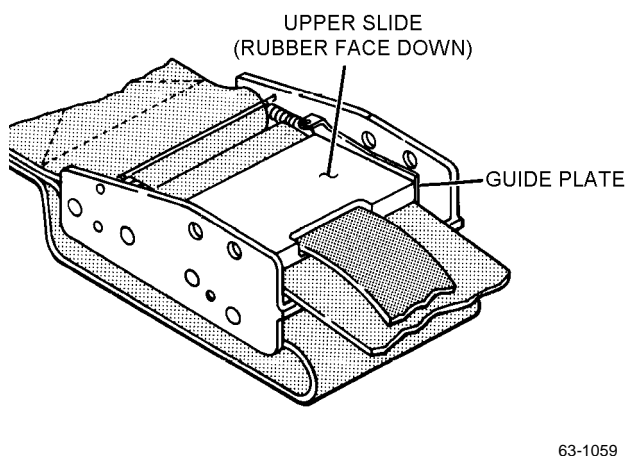
NAVAIR 13-1-6.3-2

h. Position harness webbing free end under tabs of guide plates and lay webbing down over lower slide.



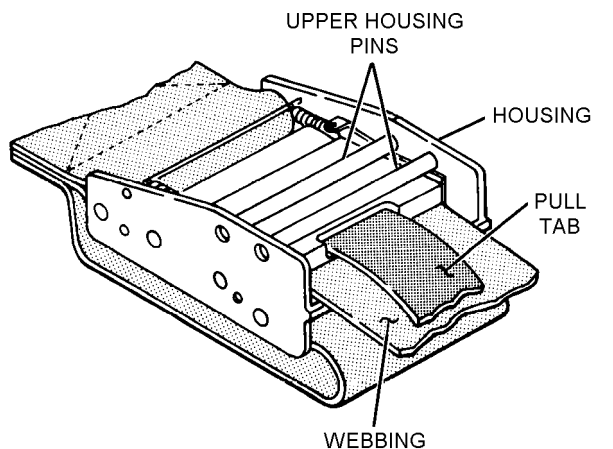
Step 2h - Para 8-77

i. Install upper slide, rubber face down. Ensure that lower slide does not come out of place and that pins sit securely in slots of guide plates.



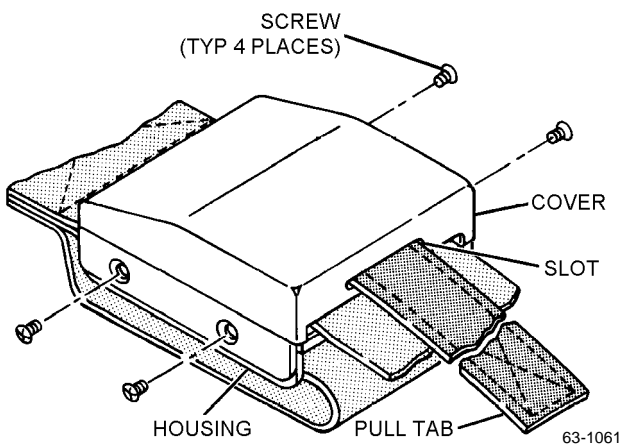
Step 2i - Para 8-77

j. Install upper housing pins. Ensure slides operate correctly (pull on pull tab to check simultaneous movement of slides). Webbing shall slide with ease through adjuster in either direction.



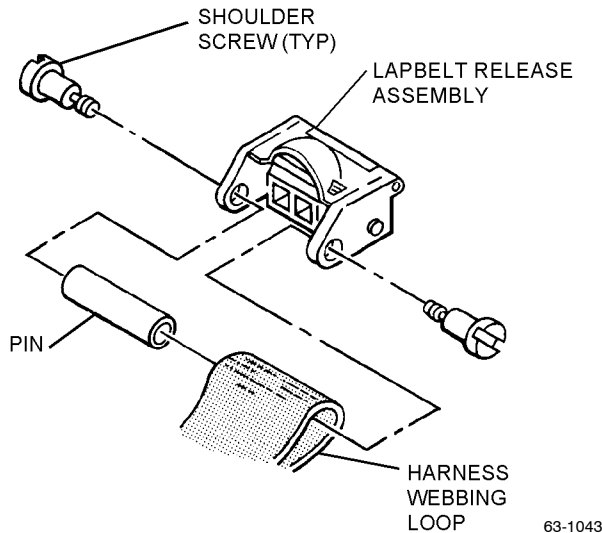
Step 2j - Para 8-77

k. Insert pull tab from inside out through slot in cover. Place cover on housing and align four screw poles. Apply sealing compound to threads of attaching four screws and secure cover to housing.



Step 2k - Para 8-77

3. Apply sealing compound to threads of two shoulder screws. Insert pin in webbing harness loop and position in lapbelt release assembly. Reinstall shoulder screws.



Step 3 - Para 8-77

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

8-78. REPLACEMENT OF LAPBELT ASSEMBLIES. Refer to [figure 8-19](#) and replace either left (21) or right (22) adjustable harness assembly (lapbelt) as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

If item cannot be acquired from supply, repair of lapbelt in accordance with [paragraph 8-78A](#) is authorized for one time only. A second repair is not authorized. Repaired lapbelts shall be replaced with new assets upon availability from the supply system.

1. Remove Koch connector by removing two shoulder screws. Pull connector away from webbing and slide pin out of the harness webbing loop ([paragraph 8-77](#)). Retain all parts.

2. Remove cap nut (25, [figure 8-19](#)) and withdraw harness retention pin (26). Separate lapbelt from rear fitting (34). Remove retention roller (27) from the harness webbing loop. Retain all parts.

3. Remove two attaching screws (23) from footman bracket (24) and remove bracket from harness webbing loop. Retain all parts.

4. Install harness assembly (lapbelt) by installing retention roller (27) in harness webbing loop. Position harness loop and retention roller in rear fitting (34), insert retention pin (26) through rear fitting and retention roller and secure with cap nut (25).

5. Insert footman bracket (24) through the webbing loop on lapbelt harness and secure bracket on lid assembly with two attaching screws (23).

6. Apply sealing compound to threads of two shoulder screws. Insert pin in webbing harness loop, position in Koch connector, and reinstall shoulder screws ([paragraph 8-77](#)).

8-78A. REPAIR OF LAPBELT ASSEMBLIES.

If item cannot be acquired from supply, repair of lapbelt is authorized for one time only. No deviations from this repair shall be authorized without the express written consent of the survival kit engineering support activity, NAWCAD Patuxent River, Code 4621. A second repair is not authorized. Repaired lapbelts shall be replaced with new assets upon availability from the supply system. If new assets are unavailable from supply, repair lapbelt assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, Textile Treated, Type 13	MIL-W-4088 NIIN 00-260-4586
As Required	Thread, Nylon Bonded Finish, Type II, Class A, Size 3, Olive Drab	V-T-295 NIIN 00-559-5212

Support Equipment Required

Quantity	Description	Reference Number
As Required	Needle, Sewing Machine, Size 23 (Note 1)	—

Notes: 1. If using class 111 or 211 sewing machine.

NOTE

Repair of lapbelt assembly is for one time only. If lapbelt has been repaired, a second repair is not authorized. All stitching shall be ASTM-D-6193, Type 301 Lockstitch, 8 stitches per inch and backstitch 1 inch minimum.

1. Remove adjuster and release assembly from lapbelt in accordance with restraint harness lapbelt adjuster replacement procedures (paragraph 8-77).

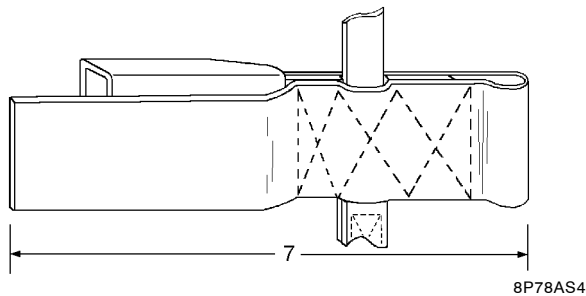
2. Lay out lapbelt on work bench with adjuster loops facing down toward work bench surface and webbing laying flat (RH lapbelt will have sticker clip facing toward technician, LH lapbelt will have sticker clip facing away from technician).

3. Measure 7 inches from the end of the rear fitting loop and place a mark. This mark should be past the folded sewn end of the lapbelt.

NOTE

Ensure no sharp edges are on the webbing after searing.

4. Sear cut the webbing at the 7 inch mark made in step 3.



Step 4 - Para 8-78A

5. With webbing laying on the work bench as in step 2, measure 3 inches from the sear cut end and mark webbing.

6. Cut a 26 1/4 inch length of Type 13, treated webbing.

NOTE

Ensure no sharp edges are on the webbing after searing.

7. Sear both ends of the webbing.

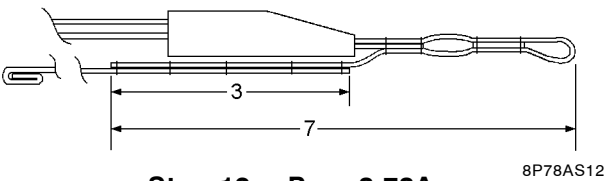
8. Measure 3 inches from one end and mark the webbing across the entire width.

9. Measure 1/4 inch inward from mark made in step 8 and make a small mark at the edge of the webbing.

10. Measure 1/2 inch inward from mark made in step 9 and place another small mark at the edge of the webbing. Repeat until 5 marks are made, each 1/2 inch apart. Last mark should be 1/4 inch from the sheared edge of the webbing.

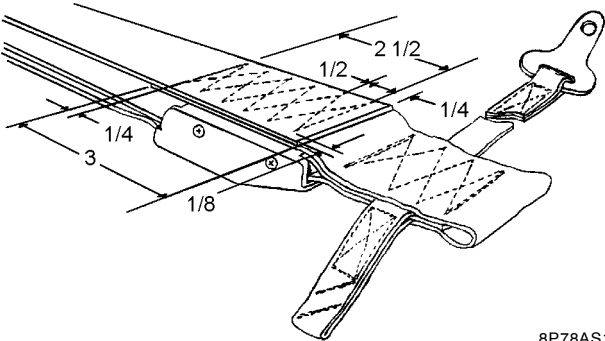
11. Mark opposite side of the webbing directly across from the marks made in step 10.

12. Place the 3 inch section of marked webbing over top of webbing marked in step 5. Ensure that 3 inch mark made in step 8 and webbing edge align.



Step 12 - Para 8-78A

13. Starting 1/8 inch from the outside edge furthest away from the adjuster attaching loop, sew a 6 point cross-stitch pattern 1/8 inch from the edges of the webbing using the 5 marks made in step 10 as a guide. Cross-stitch points should be 1/2 inch from adjacent points.

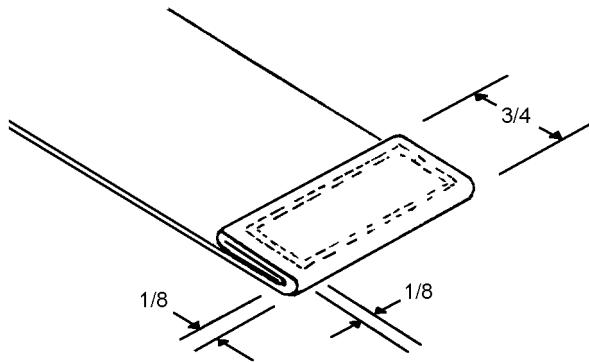


Step 13 - Para 8-78A

14. Measure in 1 1/2 inches from the other seared end of the webbing and mark webbing.

15. Double fold end of webbing marked in [step 12](#), making a 3/4 inch fold on webbing end. Double fold shall be located on the same side of webbing as the lapbelt adjusting attaching loop.

16. Sew 2 rows of stitches in the double fold using box stitch pattern 1/8 inch from edges.



Step 16 - Para 8-78A

8P78AS16

17. Reinstall lapbelt adjuster and release assembly in accordance with respective lapbelt adjuster replacement procedures using retained hardware ([paragraph 8-77](#)).

18. Quality Assurance Representative shall inspect webbing for stitching, adjuster for smoothness of operation, and proper installation of lapbelt assembly.

19. Reinstall repaired lapbelt assembly(s) onto survival kit rear fitting(s) and ensure kit is RFI.

20. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

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8-79. REPLACEMENT OF FORWARD STRAP ASSEMBLY. To replace the right or left forward strap assembly refer to items 1 and 2, [figure 8-19](#), and proceed as follows:

1. Remove three attaching screws (3) and cap nuts (4) and remove forward strap from lid assembly.
2. Install forward strap assembly on lid assembly using three screws (3) and new cap nuts (4).

8-80. REPLACEMENT OF SIDE STRAP ASSEMBLIES. To replace the right or left side strap assembly refer to item 9, [figure 8-19](#), and proceed as follows:

1. Remove two attaching cap nuts (10) and screws (11) and remove the side strap from lid assembly.
2. Ensure that folded over and seared edges of side strap assembly face toward the rucksack. Then install side strap on lid assembly using two attaching screws (11) and new cap nuts (10).

8-81. REPLACEMENT OF THE AFT STRAP ASSEMBLY. To replace aft strap assembly refer to item 5, [figure 8-19](#), and proceed as follows:

1. Remove aft strap assembly from lid assembly by removing two attaching cap nuts (6), screws (7) and washers (8).
2. Ensure folded over and seared edges of aft strap assembly face toward rucksack. Then install aft strap assembly on lid assembly using two attaching screws (7), washers (8) (installed under head of screws), and new cap nuts (6).

8-82. REPLACEMENT OF REAR FITTING ASSEMBLY. To replace either left or right rear fitting assembly refer to item 34, [figure 8-19](#), and proceed as follows:

1. Remove lapbelt assembly ([paragraph 8-78](#)).
2. Remove rear fitting from lid assembly by removing attaching cap nut (37), washer (38), anti-chafe washer (36), and rear attachment pin (35).
3. Install rear fitting on lid assembly using rear attachment pin (35) with anti-chafe washer (36) installed under head of pin, washer (38), and new cap nut (37).

4. Reinstall lapbelt assembly ([paragraph 8-78](#)).

8-83. REPLACEMENT OF REAR ATTACHMENT FITTING ASSEMBLY. To replace either left or right rear attachment fitting assembly refer to item 39, [figure 8-19](#), and proceed as follows:

1. Remove lapbelt assembly ([paragraph 8-78](#)).
2. Remove the rear fitting assembly ([paragraph 8-82](#)).
3. Remove two attaching cap nuts (40), four washers (42), and two screws (41) securing fitting (39) to side of lid assembly.
4. Remove attaching cap nut (43), two washers (45) and screw (44) securing fitting to top of lid assembly and remove rear attachment fitting (39) from lid.
5. Install rear attachment fitting (39) to side of lid assembly using two attaching screws (41), four washers (42) (one washer under each screw head and one under each cap nut), and two new cap nuts (40).
6. Secure top of rear attachment fitting (39) to lid assembly using attaching screw (44), two washers (45) (one under head of screw and one washer under cap nut), and new cap nut (43).
7. Reinstall rear fitting (34) ([paragraph 8-82](#)).
8. Reinstall lapbelt assembly (21 or 22) ([paragraph 8-78](#)).

8-84. REPLACEMENT OF EMERGENCY OXYGEN ACTUATION HANDLE ASSEMBLY. To replace emergency oxygen actuation handle assembly, proceed as follows:

1. Remove handle assembly (12, [figure 8-19](#)) from lid assembly by removing two attaching cap nuts (13), four washers (15) and screws (14). Remove cotter pin (45, [figure 8-17](#)), washer (44), and pin (43). Discard cotter pin (45).
2. Install handle assembly (12, [figure 8-19](#)) on lid assembly using two attaching screws (14), four washers (15) (one under each screw head and one under each cap nut), and two new cap nuts (13). Install pin (43, [figure 8-17](#)), washer (44), and new cotter pin (45). Bend cotter pin ends outward to 90° angle.

8-85. REPLACEMENT OF STUD AND EYELET ASSEMBLY. Refer to [figure 8-19](#) and replace stud and eyelet assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove screw (19), washer (20), stud (17) and eyelet (18) from lid assembly and discard all damaged items.

2. Apply sealing compound to threads of screw (19). Install eyelet (18) and stud (17) on lid assembly and secure with washer (20) and screw (19).

8-86. REPLACEMENT OF PIVOT FITTING ASSEMBLY. To replace either right or left pivot fittings refer figure 8-19 and proceed as follows:

1. Remove two attaching cap nuts (53), four washers (55), and two screws (54) from front of pivot fitting (51, 52). Then from side of fitting remove two attaching cap nuts (53), two washers (55), installed shims (57, 58, and 59, as applicable), and two screws (56).

NOTE

When removing pivot fittings, note number and size of shims installed between fitting and lid assembly.

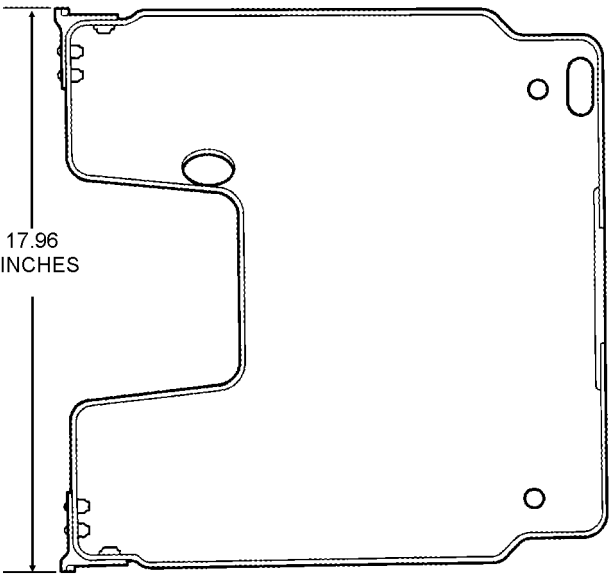
2. Install pivot fitting assembly (51, 52) on side of lid assembly by installing two attaching screws (56), shims (57, 58, and 59) between fitting and lid in same quantity and size removed (as applicable), two washers (55), and two new cap nuts (53).

NOTE

Shims (57, 58 and 59) shall be installed in equal numbers under each pivot fitting as required to ensure overall width of the kit lid is 16.71 inches (figure 8-10).

3. Secure the front of fitting by installing two attaching screws (54), four washers (55) (one under head of each screw and one under each cap nut), and two new cap nuts (53).

8-87. REPLACEMENT OF THE RADIO BEACON BRACKET. To replace radio beacon bracket refer to item 46, figure 8-19 as follows:



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Figure 8-10. SKU-10/A Lid Assembly Overall Width

1. Remove and discard rubber pads (49) from bracket (46). Drill out four rivets (47) securing the bracket to the kit lid. Discard rivets (47) and washers (48).

2. To install radio beacon bracket, position bracket on lid assembly over drilled rivet holes. Install four rivets (47) with one washer (48) under the head of each rivet to secure the bracket to lid assembly.

3. Using a suitable impact adhesive, apply two new rubber pads (49) in bottom of bracket to cushion radio beacon.

8-88. REPLACEMENT OF PRESSURE REDUCER. To replace the pressure reducer assembly refer to item 1, figure 8-18, and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly from lid assembly in accordance with [paragraph 8-61](#). Remove two threaded pins (2) from high pressure manifold (6) and separate pressure reducer (1) from manifold.

NOTE

Do not disassemble the pressure reducer.

2. Install pressure reducer assembly (1) in high pressure manifold (6). Apply sealing compound to threads of two attaching pins (2) and secure pressure reducer assembly.

NOTE

Use any contrasting color when applying tamper dots to attaching pins.

3. Apply tamper dots on two attaching pins using sealant MIL-S-22473 ([figure 8-11](#)).

4. Reinstall emergency oxygen assembly on lid assembly ([paragraph 8-95](#)).

8-89. REPLACEMENT OF EMERGENCY OXYGEN CYLINDER ASSEMBLY. To replace oxygen cylinder assembly refer to item 3, [figure 8-18](#) and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Krytox 240 AZ	MIL-G-27617 NIIN 01-007-4384
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly in accordance with [paragraph 8-61](#).

2. Remove oxygen cylinder (3) from high pressure manifold (6). Remove and discard O-ring (5) from

nipple union (4). Remove nipple union from oxygen cylinder. Remove any residual anti-seize tape attached to the threads of the nipple union. Clean threads using lint-free cloth moistened with water.

3. To install oxygen cylinder assembly, apply anti-seize tape to a maximum of 1 1/2 turns to both threaded ends of nipple union (4). Ensure that tape has no loose ends and is started one complete thread from ends of nipple union.

4. Lightly lubricate contact surfaces of new O-ring (5) with Krytox 240 AZ and install on nipple union. Install nipple union on manifold (6) and torque to a maximum of 125 inch-pounds.

5. Install oxygen cylinder on taper thread of nipple union while restraining the nipple union with a spanner. Torque cylinder onto nipple union to a maximum of 125 inch-pounds. Ensure that not more than four threads are showing between nipple union and bottle end cap.

NOTE

Use any contrasting color when applying tamper dots.

6. Apply tamper dot using sealant MIL-S-22473 ([figure 8-11](#)).

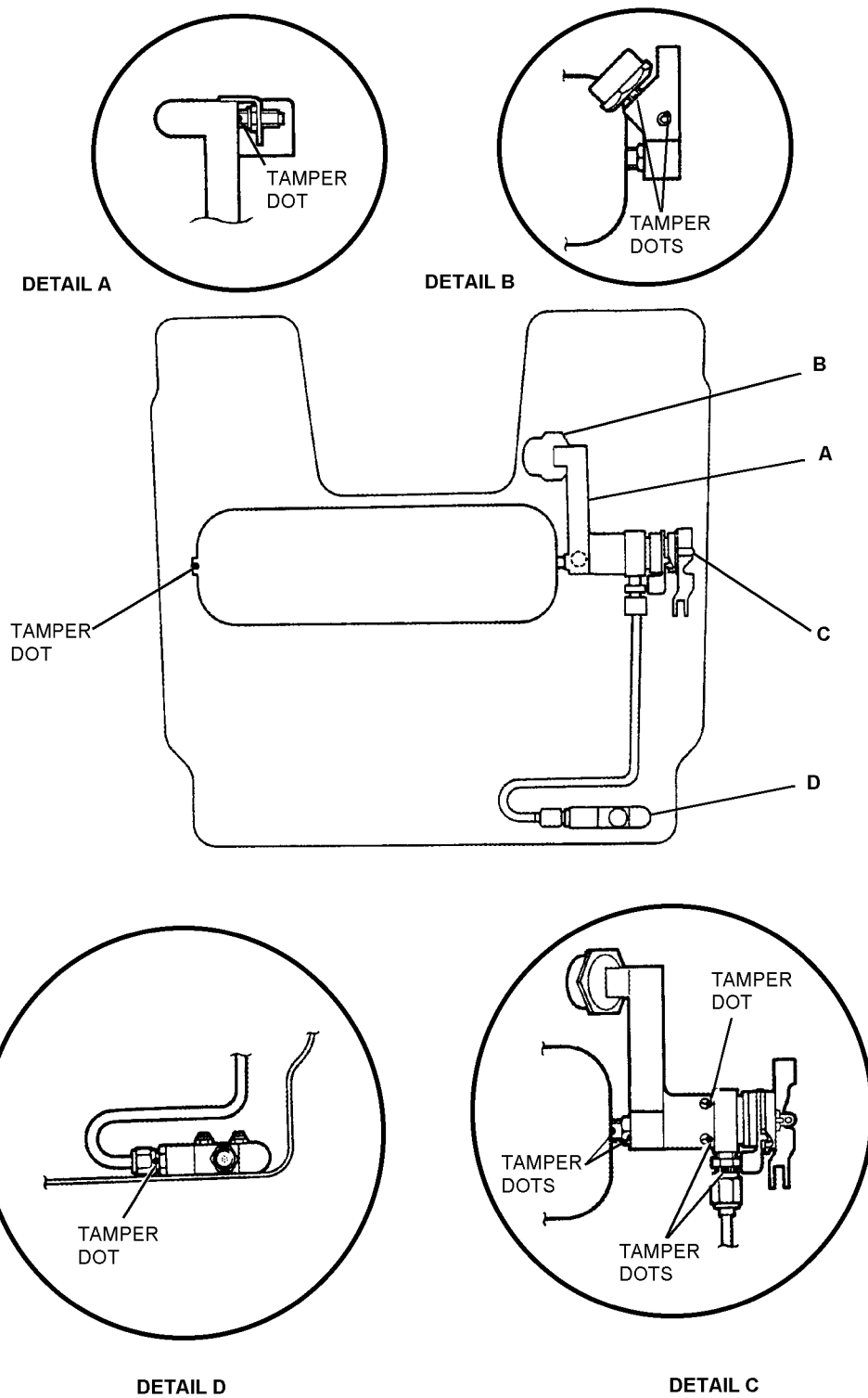
7. Reinstall emergency oxygen assembly lid assembly ([paragraph 8-95](#)).

8-90. REPLACEMENT OF OXYGEN GAGE ASSEMBLY. To replace oxygen gage assembly refer to [figure 8-18](#), and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.



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Figure 8-11. Location of Tamper Dots

1. Remove emergency oxygen assembly from lid assembly (paragraph 8-61). Remove oxygen pressure gage (7) from high pressure manifold (6).

2. To install oxygen pressure gage (7), ensure that all foreign matter is removed from threads of gage using lint-free cloth moistened with water. Apply anti-seize tape to threads a maximum of 1 1/2 turns. Ensure that there are no loose ends and that tape starts one complete thread from beginning of gage thread.

3. Install gage (7) in manifold (6) and torque to a maximum of 125 inch-pounds.

NOTE

Use any contrasting color when applying tamper dot.

4. Apply tamper dot using sealant MIL-S-22473 (figure 8-11).

5. Reinstall emergency oxygen assembly (paragraph 8-95).

8-91. REPLACEMENT OF OXYGEN FILLER VALVE ASSEMBLY. To replace oxygen filler valve assembly refer to item 11, figure 8-18 and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly (paragraph 8-61).

2. Remove attaching screw (9) and washer (10), and filler valve retaining bracket (8).

3. Remove filler valve (11) from high pressure manifold (6), and remove filter (13).

4. To install filler valve, ensure all foreign matter is removed from threads using lint-free cloth moistened with water. Apply anti-seize tape to threads of filler valve to a maximum of 1 1/2 turns. Ensure that there are no loose ends and that tape starts one complete thread from beginning of filler valve thread.

CAUTION

Filter must not be installed when using alternate Fill Valve P/N 9120097-27.

5. Install filter (13) in high pressure manifold (6). Install filler valve (11) in manifold and torque to a maximum of 125 inch-pounds.

6. Apply sealing compound to threads of screw (9). Position retaining bracket (8) over filler valve and secure with washer (10) and screw (9).

NOTE

Use any contrasting color when applying tamper dot.

7. Apply tamper dot using sealant, MIL-S-22473 (figure 8-11).

8. Reinstall emergency oxygen assembly (paragraph 8-95).

8-92. OXYGEN FILLER VALVE CORE REPLACEMENT. Remove seat survival kit from aircraft in accordance with applicable maintenance manual.

WARNING

If necessary to release oxygen pressure, pull emergency oxygen lanyard. This releases oxygen through pressure reducer manifold. Do not release pressure through filler valve or adapter. High pressure oxygen moving through restriction of filler valve causes heat and could result in fire or explosion.

NOTE

Replacement of valve core procedures are not applicable if using alternate Fill Valve P/N 9120097-27.

1. Release oxygen pressure by pulling emergency oxygen actuating lanyard.

2. Remove survival kit seat cushion (paragraph 8-72).

- 3. Remove plug and cap assembly (1, [figure 8-17](#)).
- 4. Remove valve core using extractor tool.



Valve cores used with high pressure oxygen systems are specially oxygen cleaned and packaged. Ensure package has not been damaged and valve core has not been contaminated.

- 5. Install valve core using extractor tool.
- 6. Fill emergency oxygen cylinder to 1800 - 2000 psi ([paragraph 8-52](#)).
- 7. Install plug and cap assembly (1, [figure 8-17](#)).
- 8. Install survival kit seat cushion ([paragraph 8-74](#)).
- 9. Reinstall seat survival kit in aircraft in accordance with applicable maintenance manual.

8-93. REPLACEMENT OF THE RUCKSACK SLIDE FASTENER. Replace rucksack slide fastener (5, [figure 8-16](#)) as follows:

Materials Required

Quantity	Description	Reference Number
1	Fastener, Slide, Interlocking, Type I, Style 3, Size M	V-F-106
As Required	Thread, Nylon, Size E	V-T-295

- 1. Remove slide fastener by carefully cutting thread securing slide fastener to the rucksack. Remove and discard old slide fastener.
- 2. Remove all of the old thread from the stitching pattern.

NOTE

Install slide fastener so that it opens by moving slide fastener from left to right.

- 3. Following existing stitching pattern, stitch slide fastener to rucksack using size E nylon thread.

- 4. After completion of installation, operate the slide fastener to ensure smooth operation.

8-94. ASSEMBLY.

8-95. ASSEMBLY AND INSTALLATION OF EMERGENCY OXYGEN ASSEMBLY. To assemble and install emergency oxygen assembly on lid assembly refer to [figure 8-9](#) and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3883 (Note 1)

Notes: 1. Use any contrasting color.

- 1. Apply sealing compound to threads of two attaching screws (32). Install conduit bracket (25), cantilever spring (39) and attaching screws (32) on reducer assembly (18). Ensure cantilever spring is installed with bend facing toward and applying pressure on reducer sear cam.
- 2. Ensure cantilever spring is properly installed by rotating sear (22) and reducer auto actuation cam. The cantilever spring should bend outward. Rotate cam to the ON position with lever parallel to the sear and facing away from the cantilever spring.
- 3. Apply sealing compound to threads of long nipple of conduit assembly (24). Install one retaining nut (23) and position it approximately midpoint on long nipple, insert nipple into conduit bracket (25) and install second nut (23), hand tight only.
- 4. Install the auto actuation cable into slot in reducer automatic actuation cam. Install spring pin (38) to retain cable.
- 5. Position emergency oxygen assembly (33) in lid assembly so auto actuation conduit protrudes through access hole in automatic release housing (28). Apply sealing compound to threads of conduit nipple and install housing (28) on automatic actuation conduit (24).

6. Loosely install cylinder clamp assemblies (36 and 37) as follows:

a. Install clamp with clip nut at reducer end of cylinder.

b. Clamp with uneven length legs installed at opposite end; longer leg toward front of kit.

7. Apply sealing compound to threads of one attaching screw (40) and install through lid into base of high pressure manifold. Tighten screw.

8. Install screw (46) and cap nut (45) to secure conduit bracket (25) to lid assembly.

9. Tighten cylinder clamp screws (34) and cap nuts (35).

10. Install low pressure manifold (52) on lid assembly using two attaching bolts (49), washers (50) and cap nuts (51).

NOTE

Use any contrasting color when applying tamper dots to connecting unions.

11. Install low pressure tube assembly (47) on reducer (18) and low pressure manifold (52). Torque connecting union nuts (17 and 48) to no more than 125 inch-pounds. Apply tamper dots to connecting unions using sealant ([figure 8-11](#)).

12. Install straight pin (21), washer (20), and cotter pin (19) to attach sear (22) to emergency oxygen handle (10).

13. Secure tube assembly (47) to lid assembly using clamp (44), screw (41), washer (43) and cap nut (42). If tube assembly requires slight bending to install, make only large radius bends. Do not crease or kink tube.

14. Apply sealing compound to threads of two attaching screws (30), and install automatic release housing (28) on lid assembly using two washers (31) and screws (30).

15. Rotate automatic actuation cam to the ON position, insert actuation cable ball in slide (29) and insert slide in housing (28).

16. Ensure cable is properly positioned in slide (29). Move slide back and forth in its track to ensure that cable moves freely in conduit assembly (24).

17. Apply sealing compound to threads of four attaching screws (26) and install cover (27) on release assembly housing (28).

18. Secure automatic actuation conduit (24) to bracket (25) by tightening two retaining nuts (23).

NOTE

Use any contrasting color when applying tamper dots to retaining nuts.

19. Ensure that slide (29) moves to full forward position before automatic actuation cable (24) becomes taut. If necessary, adjust two retaining nuts (23) to obtain proper slide position. Apply tamper dots to retaining nuts using sealant ([figure 8-11](#)).

20. Using a suitable pin punch, move slide (29) to its forward position.

21. Insert the ball of cable-to-lanyard assembly (11) into slide (29). Rotate reducer cam to the OFF position. If necessary, reset manual actuation handle (10) to the OFF position.

22. Pull lanyard assembly (11) and ensure that automatic actuation cam is tripped to the ON position and that lanyard (11) releases from slide (29).

23. Insert the ball of cable-to-lanyard assembly (11) into slide (29) and reset manual actuation handle (10) to the OFF position.

24. Apply a light pull on the cable to ensure that lanyard is retained by slide (29).

25. Reinstall cover (16) to lid assembly using four attaching screws (13), washers (14) and cap nuts (15).

26. Purge and charge emergency oxygen system in accordance with [paragraph 8-52](#).

27. Perform Functional Check in accordance with [paragraph 8-51](#).

28. Adjust as necessary ([paragraph 8-96](#)).

8-96. ADJUSTMENTS.

8-97. PRESSURE REDUCER. To adjust flow rates and outlet pressures on pressure reducer assembly, refer to [figure 8-12](#) and proceed as follows:

Support Equipment Required

Quantity	Description	Reference Number
1	Tool Set, Wrench Spanner	T361D907-11 (CAGE 30941) NIIN 01-419-9842

- 1. Loosen lock ring.
- 2. Turn adjusting cap counter-clockwise to decrease pressure and clockwise to increase pressure.
- 3. Tighten lock ring.
- 4. Perform Functional Check (paragraph 8-51).

8-98. EMERGENCY OXYGEN AUTOMATIC RELEASE ASSEMBLY. To adjust emergency oxygen automatic release assembly, proceed as follows:

- 1. To tighten cable, loosen special nut (23, figure 8-17) located on threaded end of conduit (22) inside

of bracket (25). Turn nut (23) counterclockwise to loosen, but do not remove from conduit.

- 2. Turn special nut (23) on the outside of bracket (25) counterclockwise to remove slack from actuation cable.

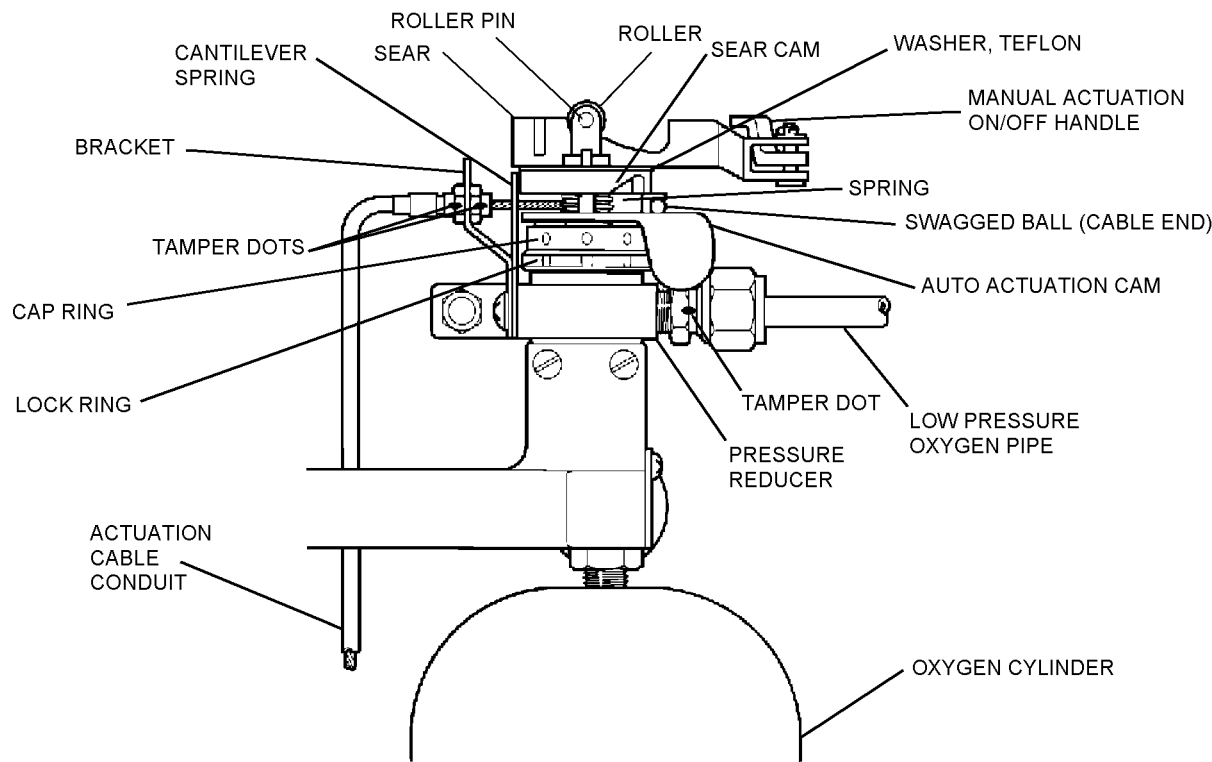
- 3. When slack has been removed from actuation cable, turn special nut (23) on inside of bracket (25) clockwise to tighten it against bracket (25) and secure conduit (22).

NOTE

Use any contrasting color when applying tamper dots.

- 4. Apply tamper dots to special nuts (23), bracket (25), and threaded end of conduit (22) (figure 8-11) using sealant.

- 5. Inspect cable to ensure all slack has been removed.



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Figure 8-12. Pressure Reducer

Section 8-7. Fabrication

8-99. GENERAL.

8-100. This section contains instructions for fabrication of tools and components which can be manufactured by local maintenance activities.

8-101. ACTUATING LANYARD, AN/URT-33A RADIO BEACON. This lanyard may be fabricated by modifying actuating lanyard P/N 12227-1, 325C365-1, or MBEU130145 as follows:

Materials Required

Quantity	Description	Reference Number
1	Swaging Sleeve	MS51844-61 NIIN 00-127-9488
1	Lanyard, Actuating or	P/N 12227-1 NIIN 01-170-8367
	Lanyard, Actuating	325C365-1 (MBEU130145)
As Required	Cord, Nylon, Type III	MIL-C-5040

Support Equipment Required

Quantity	Description	Reference Number
1	Crimping Tool	MIL-C-22520

1. Remove roll pin from actuator plug housing and separate housing, actuator plug, and swaged ball and lanyard. Discard pin and actuator plug (figure 8-13).

2. Cut lanyard cable directly behind swaged ball installed on end of cable and discard swaged ball.

NOTE

Total length of lanyard cable and bayonet connector should be 5 1/4 (± 1/16) inches.

3. Insert cable through swaging sleeve and route cable end back into swaging sleeve to form 1/2-inch loop (figure 8-14).

4. Ensure cable end is flush with swaging sleeve and crimp sleeve securely to cable using crimping tool.

NOTE

Total length of finished modified cable (without hairpin cotter attached) should be 4 1/4 (± 1/16) inches.

5. Perform pull test to check security of swaged sleeve as follows:

a. Install length of nylon cord through loop-end of lanyard cable.

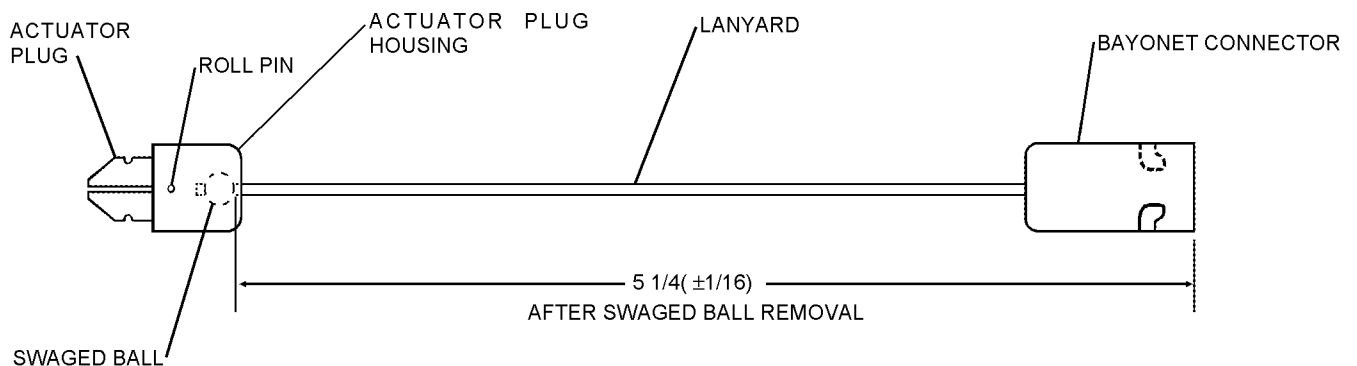
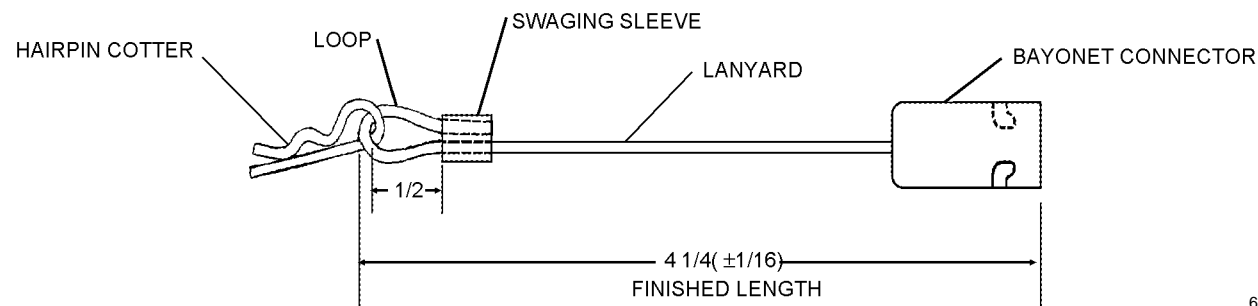


Figure 8-13. Actuating Lanyard Before IACC 589



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Figure 8-14. Actuating Lanyard Assembly After IACC 589

b. Install 50-pound weight on bayonet connector-end of lanyard cable.

c. With steady, straight upward pull on nylon cord, lift lanyard assembly with attached weight approximately one foot above its resting point.

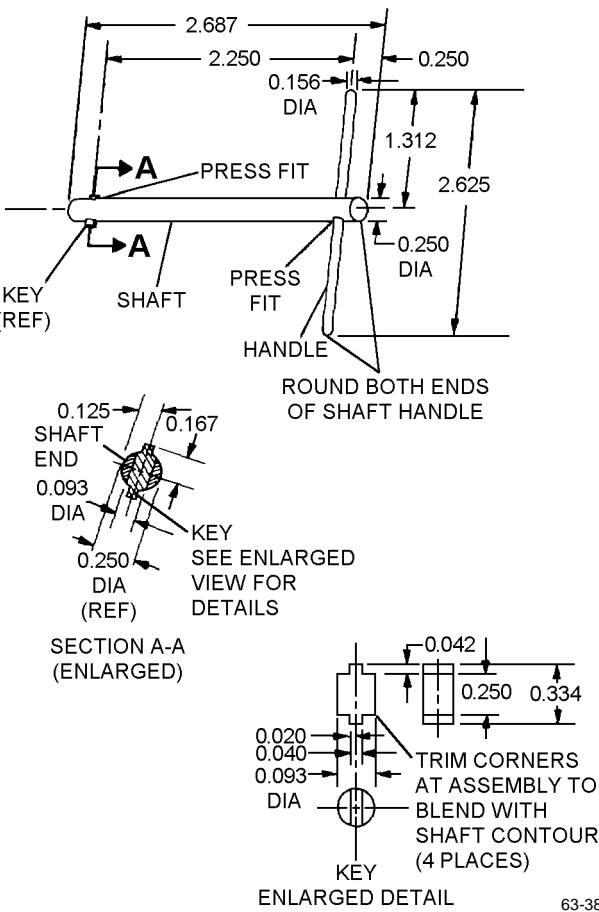
d. Observe lanyard loop in swaged sleeve. If cable moves, repeat steps 3, 4, and 5 until lanyard passes pull test.

8-102. T-WRENCH. Fabricate T-wrench (figure 8-15) using steel rod stock as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Steel rod, 0.250 dia.	—
As Required	Steel rod, 0.156 dia.	—
As Required	Steel rod, 0.093 dia.	—

8-103. ALTERNATE SEAT CUSHION FOAM. To fabricate a replacement foam cushion for the Seat Survival Kit proceed as follows:



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Figure 8-15. T-Wrench Specifications

Materials Required

NOTE

Quantity	Description	Reference Number
1	Disposable Razor or Knife	—
As Required	CONFOR Foam, 1 Inch Thick, CF-47100 Green or CF-45100 Blue	NIIN 01-370-6116 NIIN 01-449-1789

Ensure bulk CONFOR foam is large enough to make the new foam cushion one solid piece.

1. Remove old foam from seat cushion cover.
2. Use the old foam as a template, place old foam on top of CONFOR foam.

3. Trace around old foam onto the CONFOR foam, including hole for observing the emergency oxygen gage.

4. Cut CONFOR foam along the traced line.

5. Install new foam cushion into seat cushion cover. Ensure seat cushion cover fits cushion foam snugly, but does not cause bowing or excessively loose condition.

6. Write the date installed on foam with permanent marker so it can be seen easily.

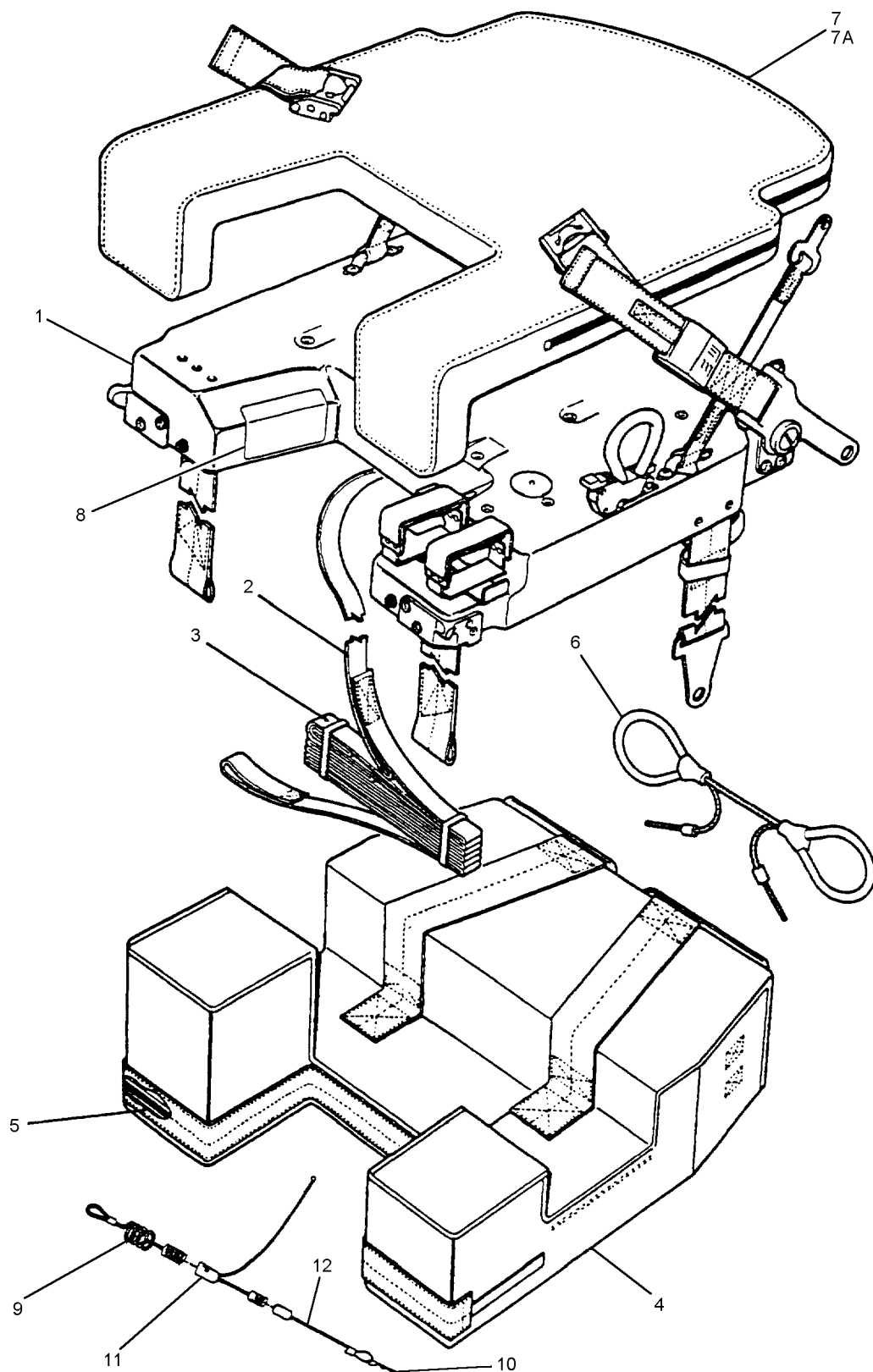
Section 8-8. Illustrated Parts Breakdown

8-104. GENERAL.

8-105. This section lists and illustrates the assemblies and detail parts of the SKU-10/A Seat Survival Kit, Part Number 366E100-5 and 366E100-7 (Post ACC 646). The kit is manufactured by East/West Industries

(CAGE 30941) and is supplied by Martin-Baker Ltd (CAGE U1604).

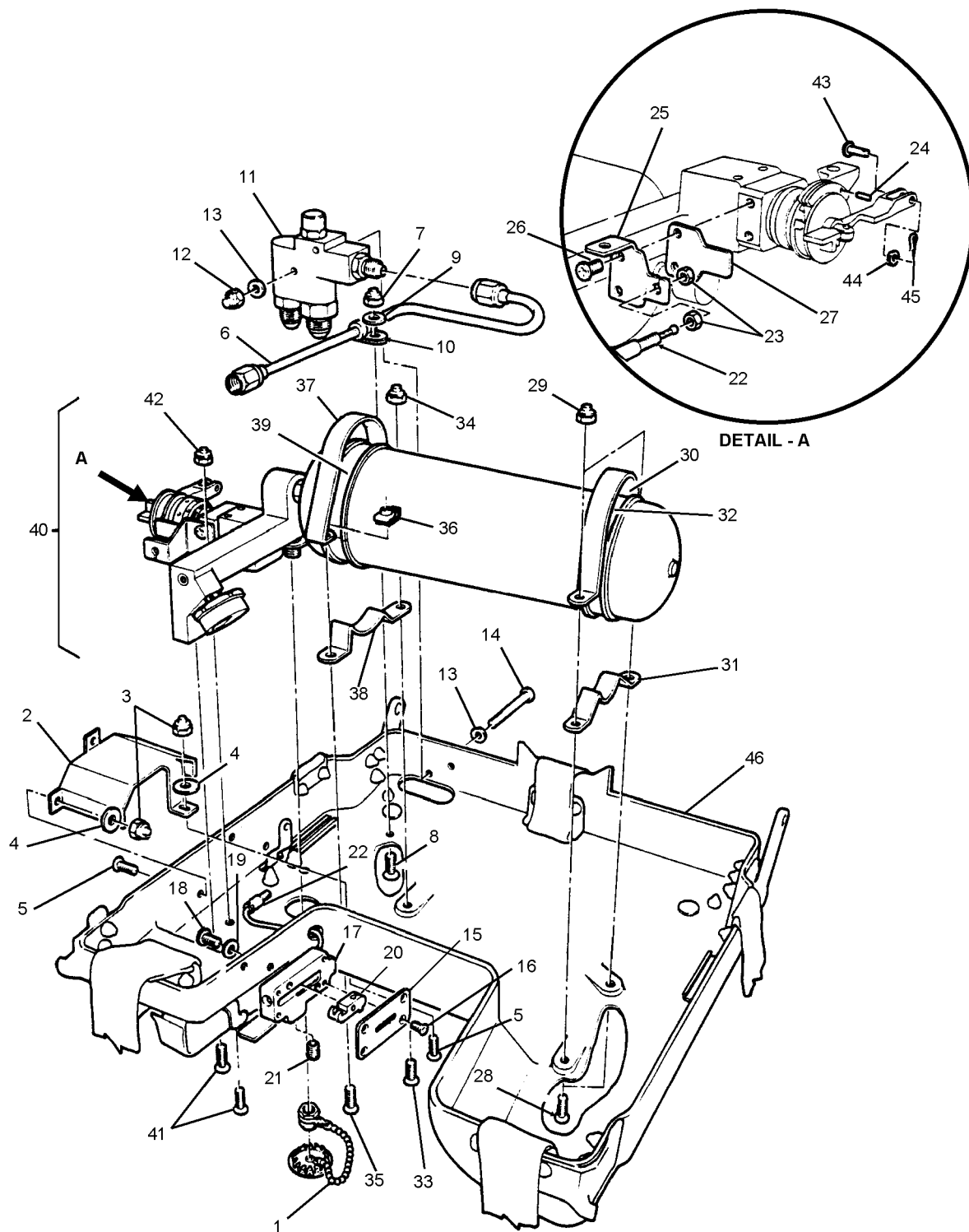
8-106. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.



008016

Figure 8-16. Seat Survival Kit Assembly (SKU-10/A)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-16	MBEU147443	SURVIVAL KIT ASSEMBLY, SKU-10/A	REF	A
	MBEU147443-1	SURVIVAL KIT ASSEMBLY, SKU-10/A	REF	B
	MBEU147444	SURVIVAL KIT ASSEMBLY (empty), SKU-10/A ... (Note 1)	REF	A
	MBEU147444-1	SURVIVAL KIT ASSEMBLY (empty), SKU-10/A ... (Note 1)	REF	B
	366E100-5	SURVIVAL KIT ASSEMBLY (empty), SKU-10/A ... (Note 1)	REF	A
	366E100-7	SURVIVAL KIT ASSEMBLY (empty), SKU-10/A ... (Note 1)	REF	B
	-1	366E200-5 . LID ASSEMBLY	1	
	-2	325E620-1 . RETAINING LANYARD ASSEMBLY	1	
	-3	ZZ-R-001415 . ELASTIC TIE	4	
	-4	325E400-1 . RUCKSACK ASSEMBLY	1	
	-5	EW49004 . . SLIDE FASTENER, Rucksack	1	
	-6	361E560-1 . DEPLOYMENT HANDLE ASSEMBLY	1	
	-7	366E671-9 . CUSHION ASSEMBLY (Note 2)	1	A
	-7A	366E672-1 . CUSHION ASSEMBLY (Notes 1 and 2)	1	B
	-8	MBEU130399 . NAMEPLATE	1	
		EW91062 . NAMEPLATE	1	
	-9	361D367-1 . LOWER COUPLING ASSEMBLY, Lanyard	1	
	-10	MS16562-192 . PIN, Spring, beacon actuating lanyard	1	
	-11	325D363-1 . CABLE TO LANYARD ASSEMBLY	1	
	-12	325C365-1 . LANYARD ASSEMBLY, Beacon actuator	1	
Notes: 1. Cushion Assembly P/N 366E672-1 is to be used only in aircraft with ACC 646 incorporated. 2. Alternate rate dependent cushion foam has been authorized for use. See Fabrication, Section 8-7.				
Usable on Codes: A – Before incorporation of ACC 646. B – After incorporation of ACC 646.				



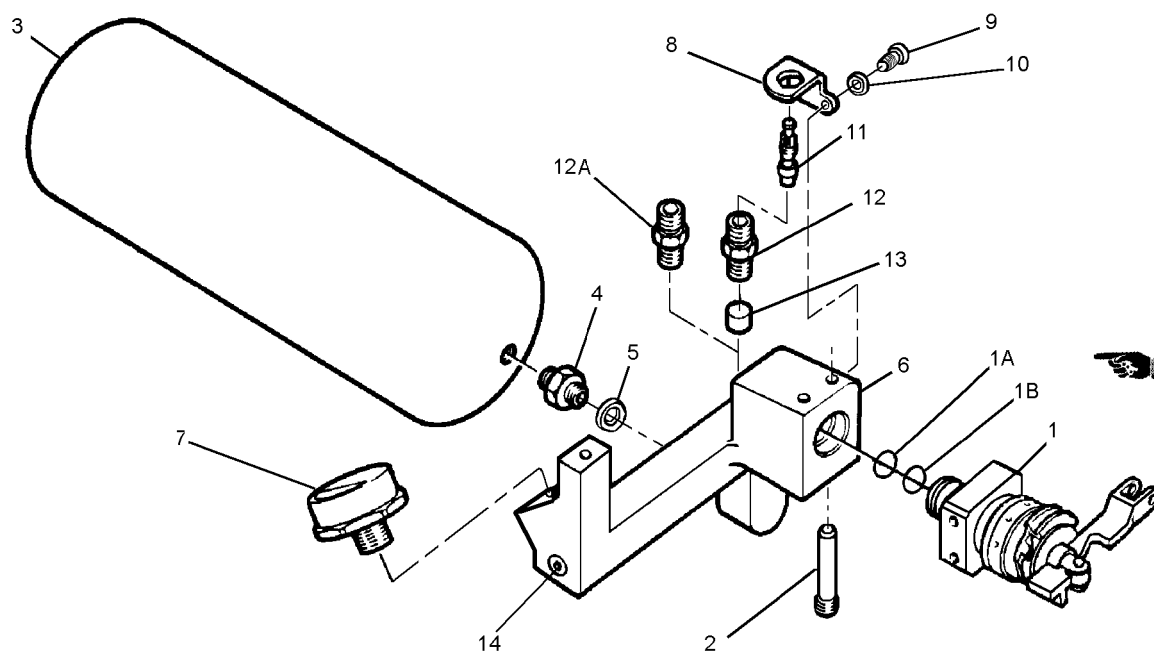
63-157

Figure 8-17. Lid Assembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-17	366E200-5	LID ASSEMBLY, Survival Kit (See figure 8-16 for NHA)	1	
-1	361C280-1	. PLUG AND CAP ASSEMBLY	1	
-2	361D839-11	. COVER (ATTACHING PARTS)	1	
-3	EW42008	. NUT, Cap, self-locking	4	
	F22K1-62	. NUT, Cap, self-locking	4	
-4	AN960C6	. WASHER	4	
-5	MS24693-C28	. SCREW ---*---	4	
-6	361D355-1	. TUBE ASSEMBLY, Low pressure (ATTACHING PARTS)	1	
	325E355-1	. TUBE ASSEMBLY, Low pressure (ATTACHING PARTS)	1	
-7	EW42005	. NUT, Cap, self-locking	1	
	F22K1-82	. NUT, Cap, self-locking	1	
-8	MS24693-C50	. SCREW	1	
-9	AN960C8L	. WASHER	1	
-10	MS21919-DG4	. CLAMP ---*---	1	
-11	325D317-3	. MANIFOLD ASSEMBLY, Low pressure (See figure 8-20 for BKDN) (ATTACHING PARTS)	1	
-12	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-13	AN960C8L	. WASHER	4	
-14	MS27039-C0818	. SCREW ---*---	2	
-15	325C391-11	. COVER, Auto release (ATTACHING PARTS)	1	
-16	MS24693-C3	. SCREW ---*---	4	
-17	325D392-13	. HOUSING, Auto release (ATTACHING PARTS)	1	
-18	MS51958-63	. SCREW	2	
-19	AN960C10L	. WASHER ---*---	2	
-20	325D394-13	. SLIDE, Auto release	1	
-21	EW50021	. BALL PLUNGER	1	
-22	325E395-1	. CONDUIT ASSEMBLY (ATTACHING PARTS)	1	
-23	221B363-11	. NUT, Special	2	
-24	MS171432	. PIN, Spring ---*---	1	

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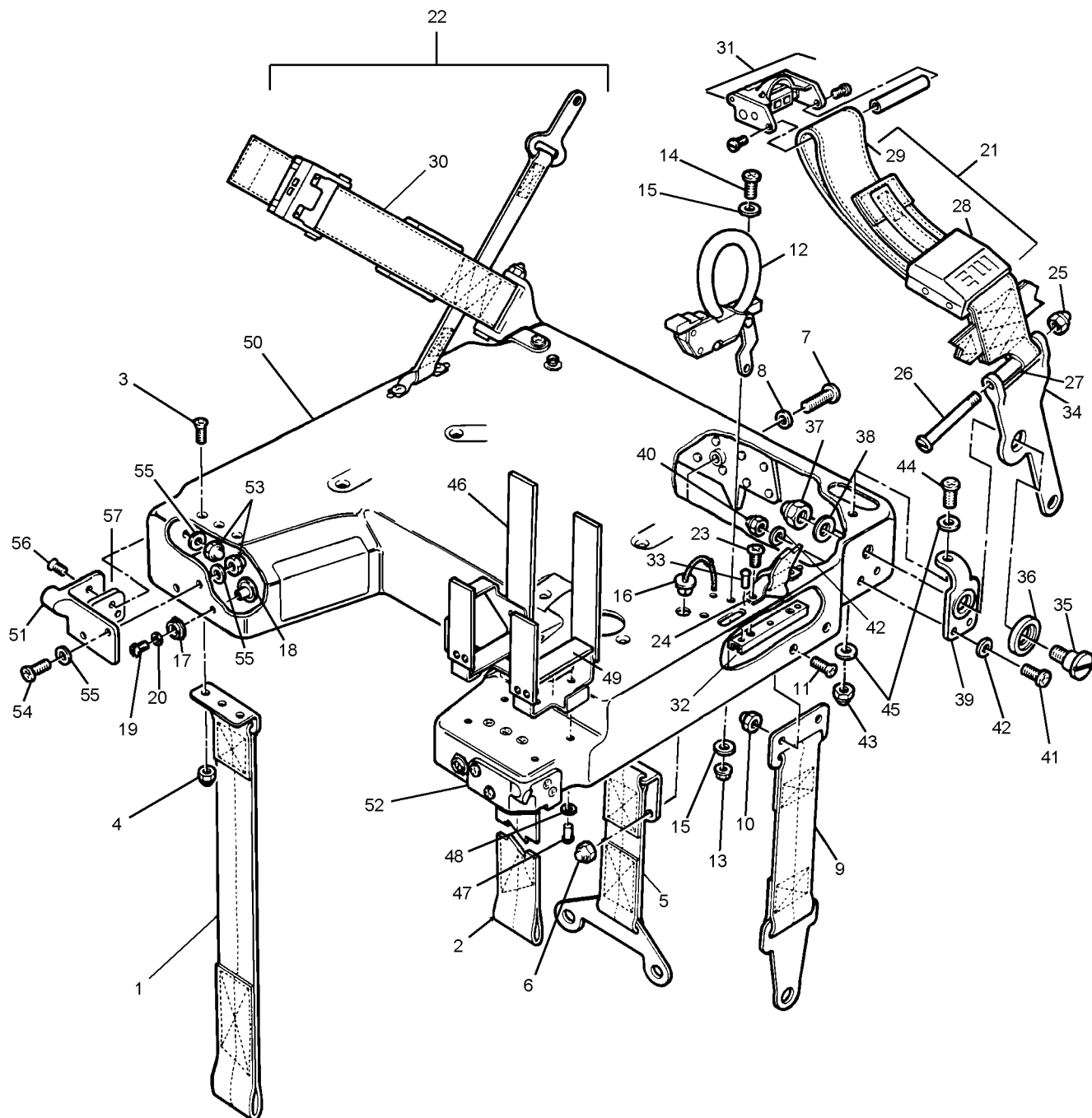
Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-17-25	325D838-11	. BRACKET, Conduit (ATTACHING PARTS)	1	
-26	MS51957-41	. SCREW ---*---	2	
-27	325D852-11	. SPRING, Cantilever	1	
	325E230-1	. CLAMP ASSEMBLY (ATTACHING PARTS)	1	
-28	MS24693-C273	. SCREW	2	
-29	EW42001	. NUT, Cap, self-locking	2	
	F22K1-02	. NUT, Cap, self-locking ---*---	2	
-30	325E230-11	. . CLAMP	1	
-31	325E230-13	. . STRAP	1	
-32	325C235-11	. . INSERT	1	
	325E240-1	. CLAMP ASSEMBLY (ATTACHING PARTS)	1	
-33	MS24693-C273	. SCREW	1	
-34	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-35	MS24693-C274	. SCREW ---*---	1	
-36	RM52LHA4972-4-3	. . NUT, Clip	1	
-37	325E240-11	. . CLAMP	1	
-38	325E240-13	. . STRAP	1	
-39	325C235-11	. . INSERT	1	
-40	366E310-1	. EMERGENCY OXYGEN ASSEMBLY (See figure 8-18 for BKDN) (ATTACHING PARTS)	1	
-41	MS24693-C272	. SCREW	2	
-42	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-43	MS20392-1C13	. PIN	1	
-44	AN960C4L	. WASHER	1	
-45	MS24665-1011	. PIN, Cotter ---*---	1	
-46	366E200-7	. LID SUB-ASSEMBLY (See figure 8-19 for BKDN)	1	



008018

Figure 8-18. Emergency Oxygen Assembly

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
8-18	366E310-1	EMERGENCY OXYGEN ASSEMBLY							1	
		(See Figure 8-17 for NHA)								
-1	361E840-1	. PRESSURE REDUCER ASSEMBLY, Adj							1	
		(ATTACHING PARTS)								
-1A	NAS1611-014	. O-RING							1	
-1B	325D813-11	. RING, Backup							1	
-2	266C702-11	. PIN							2	
		---*---								
-3	235D500-3	. CYLINDER ASSEMBLY							1	
-4	266B830-11	. NIPPLE, Union							1	
-5	MS9068-011	. O-RING							1	
	366E310-3	. MANIFOLD ASSEMBLY							1	
-6	325E812-11	. . MANIFOLD ASSEMBLY, High pressure							1	
-7	EW68001	. . GAGE							1	
-8	325D312-11	. . BRACKET, Anti-rotation, filler valve							1	
		(ATTACHING PARTS)								
-9	MS51957-26	. . SCREW							1	
-10	AN960C6L	. . WASHER							1	
		---*---								
	325B380-1	. . VALVE ASSEMBLY, Filler							1	
-11	EW63001	. . . VALVE CORE							1	
-12	102C383-11	. . . BODY, Valve							1	
-12A	9120097-27	. . FILL VALVE (Note 1)							1	
-13	204B419-11	. . FILTER, Filler valve							1	
-14	MS27769-S1	. . PLUG							2	
Notes: 1. Fill Valve can be used as an alternate to replace Filler Valve Assembly P/N 325B380-1 or Valve Core P/N EW63001 and Valve Body P/N 102C383-11.										



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Figure 8-19. Lid Subassembly

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-19	366E200-7	LID SUB-ASSEMBLY (See figure 8-17 for NHA)	1	
-1	361D650-3	. STRAP ASSEMBLY, Forward (RH)	1	
-2	361D650-1	. STRAP ASSEMBLY, Forward (LH) (ATTACHING PARTS FOR EACH OF ITEMS 1 AND 2)	1	
-3	MS24693-C28	. SCREW	3	
-4	EW42008	. NUT, Cap, self-locking	3	
	F22K1-62	. NUT, Cap, self-locking ---*---	3	
-5	325D660-1	. STRAP ASSEMBLY, Aft (ATTACHING PARTS)	1	
-6	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-7	MS51957-46	. SCREW	2	
-8	AN960C8L	. WASHER ---*---	2	
-9	325D630-1	. STRAP ASSEMBLY, Side (ATTACHING PARTS)	2	
-10	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-11	MS24693-C50	. SCREW ---*---	2	
-12	325E350-1	. HANDLE ASSEMBLY, (Manual Actuation) (ATTACHING PARTS)	1	
-13	H14-3	. NUT, Self-locking	2	
-14	MS51958-65	. SCREW	2	
	AN960C10L	. WASHER ---*---	4	
-16	361C261-1	. PLUG ASSEMBLY	1	
-17	MS27983-3N	. STUD	4	
-18	MS27983-5N	. EYELET (ATTACHING PARTS FOR EACH OF ITEMS 17 AND 18)	4	
-19	EW41002	. SCREW	1	
-20	NAS620C-5L	. WASHER ---*---	1	
-21	325D680-1	. HARNESS ASSEMBLY, (Lapbelt), Adj (LH)	1	
-22	325D680-2	. HARNESS ASSEMBLY, (Lapbelt), Adj (RH) (ATTACHING PARTS FOR EACH OF ITEMS 21 AND 22)	1	
-23	MS51958-63	. SCREW	2	
-24	102C101-13	. BRACKET, Footman	1	
-25	EW42001	. NUT, Cap, self-locking	1	

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-19	F22K1-02	. NUT, Cap, self-locking	1	
-26	221B691-11	. PIN, Retention, harness	1	
-27	221B210-11	. ROLLER, Retention	1	
		---*---		
-28	184C100-1	. . ADJUSTER, Harness restraint	1	
-29	325E690-1	. . HARNESS ASSEMBLY (LH)	1	
-30	325E690-2	. . HARNESS ASSEMBLY (RH)	1	
-31	MBEU144299	. . KOC H CONNECTOR (NOES 2 and 3)	1	
	015-11365-1	. . KOC H CONNECTOR (NOES 2 and 3)	1	
-32	102C281-11	. BACKPLATE	2	
		(ATTACHING PARTS)		
-33	MS20470A3-5	. RIVET	3	
		---*---		
-34	253C645-11	. FITTING, Rear	2	
	253C645-13	. FITTING, Rear	2	
		(ATTACHING PARTS)		
-35	361B646-11	. PIN, Rear attachment	1	
-36	221B648-11	. WASHER, Anti-chafe	1	
-37	EW42003	. NUT, Cap, self-locking	1	
	F22K1-048	. NUT, Cap, self-locking	1	
-38	AN960C416L	. WASHER	1	
		---*---		
-39	325D640-11	. ATTACHMENT FITTING, Rear	2	
		(ATTACHING PARTS)		
-40	EW42001	. NUT, Cap, self-locking	2	
	F22K1-02	. NUT, Cap, self-locking	2	
-41	MS51958-63	. SCREW	2	
-42	AN960C10L	. WASHER	4	
-43	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-44	MS51958-63	. SCREW	1	
-45	AN960C10L	. WASHER	2	
		---*---		
-46	325E511-3	. BRACKET ASSEMBLY, Beacon	1	
		(ATTACHING PARTS)		
-47	MS20426A4-7	. RIVET	4	
-48	AN960C4L	. WASHER	4	
		---*---		
-49	325D513-11	. PAD, Rubber	2	
-50	325J221-11	. LID, MACHINED	1	
-51	325D212-12	. . PIVOT FITTING (RH)	1	

Figure and Index Number	Part Number	1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-19-52	325D212-11	. . PIVOT FITTING (LH) (ATTACHING PARTS FOR EACH OF ITEMS 51 AND 52)	1	
-53	EW42005	. . NUT, Cap, self-locking	4	
	F22K1-82	. . NUT, Cap, self-locking	4	
-54	MS27039-C0809	. . SCREW	2	
-55	AN960C8L	. . WASHER	6	
-56	MS24694-C6	. . SCREW	2	
		---*---		
-57	217B220-15	. . SHIM, LAMINATED	A/R	
	Notes: 1. Deleted. 2. When ordering P/N MBEU144299, P/N 015-11365-1 may be received. Both are acceptable and interchangeable in pairs only. 3. When replacing lapbelt assembly connectors P/N MBEU144299 or P/N 015-11365-1, apply sealing, locking, and retaining compound, MIL-S-22473, to shoulder screws.			

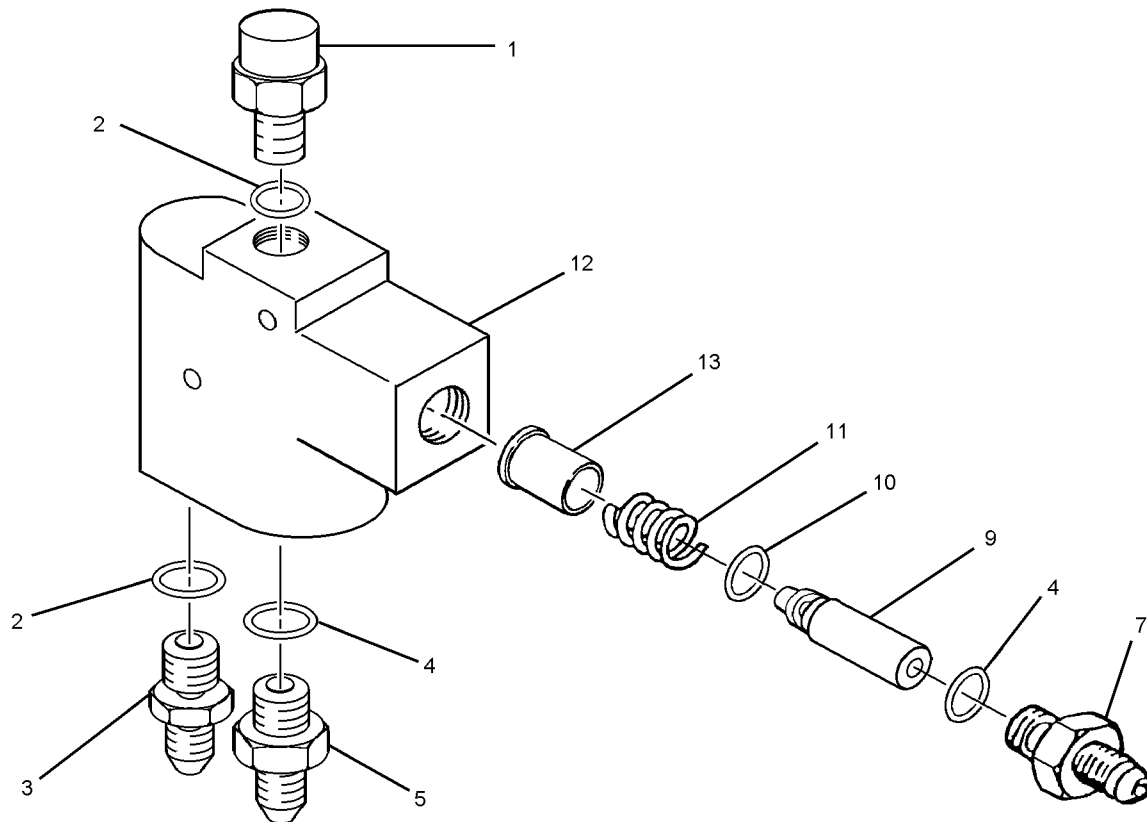


Figure 8-20. Manifold Assembly, Outlet

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
8-20	325D317-3	MANIFOLD ASSEMBLY, OUTLET (See figure 8-17 for NHA)	REF	
-1	EW63004	. RELIEF VALVE (30941)	1	
	P103-673	. RELIEF VALVE (91816)	1	
	Z02RV04-4	. RELIEF VALVE (91816) (Note 1)	1	
-2	MS9068-012	. O-RING (Note 2)	2	
-3	325D336-11	. UNION	1	
-4	MS9068-013	. O-RING (Note 2)	2	
-5	325C335-11	. UNION	1	
-6	Deleted			
-7	325C334-11	. UNION	1	
-8	Deleted			
-9	325C331-11	. SPINDLE	1	
-10	MS9068-010	. O-RING (Note 2)	1	
-11	295B333-11	. SPRING	1	
-12	325D319-13	. MANIFOLD BODY	1	
-13	325C320-11	. SPRING RETAINER	1	
Notes: 1. Torque to a value of 70 ± 5 in-lb. 2. Apply a light film of Krytox 240 AZ lubricant, MIL-G-27617, prior to assembly.				

NUMERICAL INDEX

Part Number	Figure and Index Number	SM&R Code
AN960C-10L	8-17-19	PAOZZ
	8-19-15	PAOZZ
	8-19-42	PAOZZ
	8-19-45	PAOZZ
AN960C416L	8-19-38	PAGZZ
AN960C4L	8-17-44	PAGZZ
	8-19-48	PAGZZ
AN960C6	8-17-4	PAGZZ
AN960C6L	8-18-10	PAGZZ
AN960C8L	8-17-9	PAGZZ
	8-17-13	PAGZZ
	8-19-8	PAGZZ
	8-19-55	PAGZZ
EW41002	8-19-19	PAGZZ
EW42001	8-17-29	PAGZZ
	8-17-34	PAGZZ
	8-17-42	PAGZZ
EW42001	8-19-25	PAGZZ
	8-19-40	PAGZZ
	8-19-43	PAGZZ
EW42003	8-19-37	PAGZZ
EW42005	8-17-12	PAGZZ
	8-19-6	PAGZZ
	8-19-10	PAGZZ
	8-19-53	PAGZZ
EW42008	8-17-3	PAGZZ
	8-17-7	PAGZZ
	8-19-4	PAGZZ
EW49004	8-16-5	PAGGG
EW50021	8-17-21	PAGZZ
EW63001	8-18-11	PAGZZ
EW63004	8-20-1	
EW68001	8-18-7	PAGZZ
EW91062	8-16-8	MDGZZ
F22K1-02	8-17-29	PAGZZ
	8-17-34	PAGZZ
	8-17-42	PAGZZ
	8-19-25	PAGZZ
	8-19-40	PAGZZ
	8-19-43	PAGZZ
F22K1-048	8-19-37	PAGZZ
F22K1-62	8-17-3	PAGZZ
	8-19-4	PAGZZ
F22K1-82	8-17-7	PAGZZ
	8-17-12	PAGZZ
	8-19-6	PAGZZ
	8-19-10	PAGZZ
F22K1-82	8-19-53	PAGZZ
H14-3	8-19-13	PAGZZ
MBEU130399	8-16-8	MDGZZ

Part Number	Figure and Index Number	SM&R Code
MBEU144299	8-19-31	PAGZZ
MBEU147443	8-16	AGOOG
MBEU147443-1	8-16	AGOOG
MBEU147444	8-16	PAGGG
MBEU147444-1	8-16	PAGGG
MS16562-192	8-16-10	PAGZZ
MS171432	8-17-24	PAGZZ
MS20392-1C13	8-17-43	PAGZZ
MS20426A4-7	8-19-47	PAGZZ
MS20470A3-5	8-19-33	PAGZZ
MS21919-DG4	8-17-10	PAGZZ
MS24665-1011	8-17-45	PAGZZ
MS24693-C272	8-17-41	PAGZZ
MS24693-C273	8-17-28	PAGZZ
	8-17-33	PAGZZ
MS24693-C274	8-17-35	PAGZZ
MS24693-C28	8-17-5	PAGZZ
	8-19-3	PAGZZ
MS24693-C3	8-17-16	PAGZZ
MS24693-C50	8-17-8	PAGZZ
	8-19-11	PAGZZ
MS24694-C6	8-19-56	PAGZZ
MS27039-C0809	8-19-54	PAGZZ
MS27039-C0818	8-17-14	PAGZZ
MS27769-S1	8-18-14	PAGZZ
MS27983-3N	8-19-17	PAGZZ
MS27983-5N	8-19-18	PAGZZ
MS51957-26	8-18-9	PAGZZ
MS51957-41	8-17-26	PAGZZ
MS51957-46	8-19-7	PAGZZ
MS51958-63	8-17-18	PAGZZ
	8-19-23	PAGZZ
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MS9068-010	8-20-10	PAGZZ
MS9068-011	8-18-5	PAGZZ
MS9068-012	8-20-2	PAGZZ
MS9068-013	8-20-4	PAGZZ
NAS1611-014	8-18-1A	PAGZZ
NAS620C-5L	8-19-20	PAGZZ
P103-673	8-20-1	
RM52LHA4972-4-3	8-17-36	PAGZZ
ZZ-R-001415	8-16-3	PAGZZ
Z02RV04-4	8-20-1	
015-11365-1	8-19-31	PAGZZ
102C101-13	8-19-24	PAGZZ
102C281-11	8-19-32	PAGZZ
102C383-11	8-18-12	PAGZZ

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184C100-1	8-19-28	PAGZZ
204B419-11	8-18-13	PAGZZ
217B220-15	8-19-57	PAGZZ
221B210-11	8-19-27	PAGZZ
221B363-11	8-17-23	PAGZZ
221B648-11	8-19-36	PAGZZ
221B691-11	8-19-26	PAGZZ
235D500-3	8-18-3	PAGZZ
253C645-11	8-19-34	PAGZZ
253C645-13	8-19-34	PAGZZ
266B830-11	8-18-4	PAGZZ
266C702-11	8-18-2	PAGZZ
295B333-11	8-20-11	PAGZZ
325B380-1	8-18	PAGGG
325C235-11	8-17-32	PAGZZ
	8-17-39	PAGZZ
325C320-11	8-20-13	PAGZZ
325C331-11	8-20-9	PAGZZ
325C334-11	8-20-7	PAGZZ
325C335-11	8-20-5	PAGZZ
325C365-1	8-16-12	PAGZZ
325C391-11	8-17-15	XBGZZ
325D212-11	8-19-52	PAGZZ
325D212-12	8-19-51	PAGZZ
325D312-11	8-18-8	XBGZZ
325D317-3	8-17-11	PAGGG
	8-20	PAGGG
325D319-13	8-20-12	XAGZZ
325D336-11	8-20-3	PAGZZ
325D363-1	8-16-11	PAGZZ
325D392-13	8-17-17	XBGZZ
325D394-13	8-17-20	PAGZZ
325D513-11	8-19-49	XBGZZ
325D630-1	8-19-9	PAGZZ
325D640-11	8-19-39	PAGZZ
325D660-1	8-19-5	PAGZZ
325D680-1	8-19-21	AGGGG
325D680-2	8-19-22	AGGGG
325D813-11	8-18-1B	PAGZZ
325D838-11	8-17-25	XBGZZ

Part Number	Figure and Index Number	SM&R Code
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325D852-11	8-17-27	PAGZZ
325E230-1	8-17	PAGZZ
325E230-11	8-17-30	PAGZZ
325E230-13	8-17-31	PAGZZ
325E240-1	8-17	PAGZZ
325E240-11	8-17-37	PAGZZ
325E240-13	8-17-38	PAGZZ
325E350-1	8-19-12	PAGZZ
325E355-1	8-17-6	PAGZZ
325E395-1	8-17-22	PAGZZ
325E400-1	8-16-4	PAGGG
325E511-3	8-19-46	XBGZZ
325E620-1	8-16-2	PAGZZ
325E690-1	8-19-29	PAGZZ
325E690-2	8-19-30	PAGZZ
325E812-11	8-18-6	XAGZZ
325J221-11	8-19-50	PAGGG
361B646-11	8-19-35	PAGZZ
361C261-1	8-19-16	PAGZZ
361C280-1	8-17-1	PAGZZ
361D355-1	8-17-6	PAGZZ
361D367-1	8-16-9	PAOZZ
361D650-1	8-19-2	PAGZZ
361D650-3	8-19-1	PAGZZ
361D839-11	8-17-2	XBGZZ
361E560-1	8-16-6	PAGZZ
361E840-1	8-18-1	PAGZZ
366E100-5	8-16	PAGGG
366E100-7	8-16	PAGGG
366E200-5	8-16-1	PAGGG
	8-17	PAGGG
366E200-7	8-17-46	PAGZZ
	8-19	PAGZZ
366E310-1	8-17-40	AGGGG
	8-18	AGGGG
366E310-3	8-18	PAGGG
366E671-9	8-16-7	PAOZZ
366E672-1	8-16-7A	PAOZZ
9120097-27	8-18-12A	PAGZZ

CHAPTER 9

SKU-11/A SEAT SURVIVAL KIT

Section 9-1. Description

9-1. GENERAL.

9-3. CONFIGURATION.

9-2. The SKU-11/A Seat Survival Kit Assembly P/N 361E150-3 is designed for use with the SJU-17(V)5/A and SJU-17(V)6/A Ejection Seats installed in T-45 aircraft. The SKU-11/A Seat Survival Kit Assembly P/N 361E150-5 is designed for use with the SJU-17A(V)5/A and SJU-17A(V)6/A (Post ACC 646) Ejection Seats installed in T-45 aircraft. The kit functions as a seat for the aircrewmember as well as a platform for mounting emergency oxygen and other survival equipment (figure 9-1). The SKU-11/A Seat Survival Kit Assembly, P/N 361E150-3, (361E150-5, Post ACC 646) is manufactured by East/West Industries (CAGE 30941) and supplied by Martin-Baker Aircraft Co. Ltd. (CAGE U1604).

9-4. The assembly includes a molded fiberglass seat lid, an emergency oxygen system, an AN/URT-33A radio beacon, a rucksack assembly, and a seat cushion.

9-5. The seat lid assembly is the primary structure and serves as a seat for the aircrewman as well as a mounting platform for the rucksack assembly and the emergency oxygen system. Two lapbelts are attached to the lid assembly at the aft outboard edges and are fitted with release assemblies which are attached to the aircrewman's torso harness.

9-6. The AN/URT-33A radio beacon is mounted on the top side of the lid assembly beneath the left thigh pad of the seat cushion.

9-7. A flexible oxygen and communications hose assembly, which consists of two hose subassemblies, is installed on the aft left side of the lid assembly. The first subassembly provides connection for communication and oxygen services between the aircraft console, through the ejection seat survival kit, to a quick disconnect union at the end of the subassembly. The second subassembly provides the interconnection be-

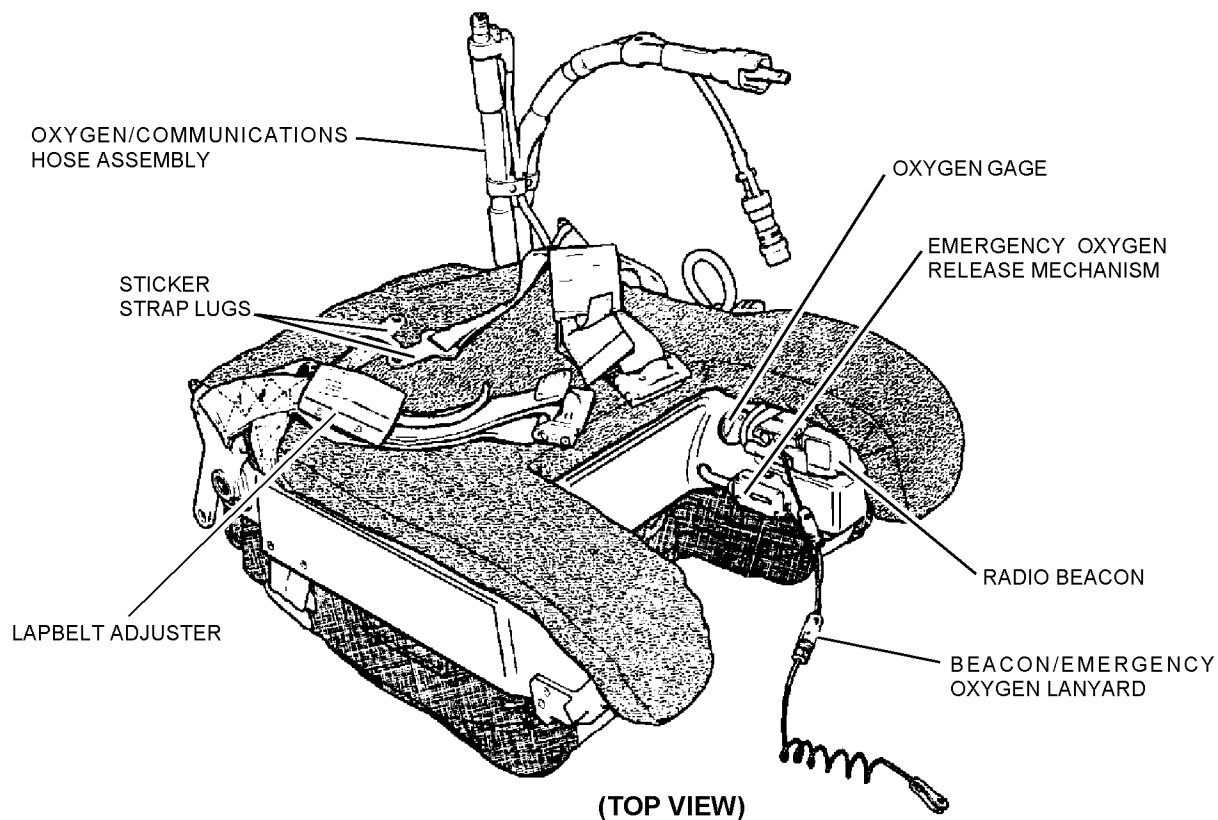
tween the quick disconnect and the aircrewman's chest mounted breathing oxygen regulator. Anti-g and vent air are provided directly to the aircrewman from the aircraft console.

9-8. The emergency oxygen system is mounted on the underside of the seat lid assembly. The system consists of a 100 cubic inch 1800-psi cylinder and gage, a pressure reducer assembly, and two actuation devices. The two actuation devices consist of a resettable manual actuation handle and a quick-disconnect lanyard for automatic actuation on ejection. The emergency oxygen system will deliver over 10 minutes of breathing oxygen to the aircrewmember.

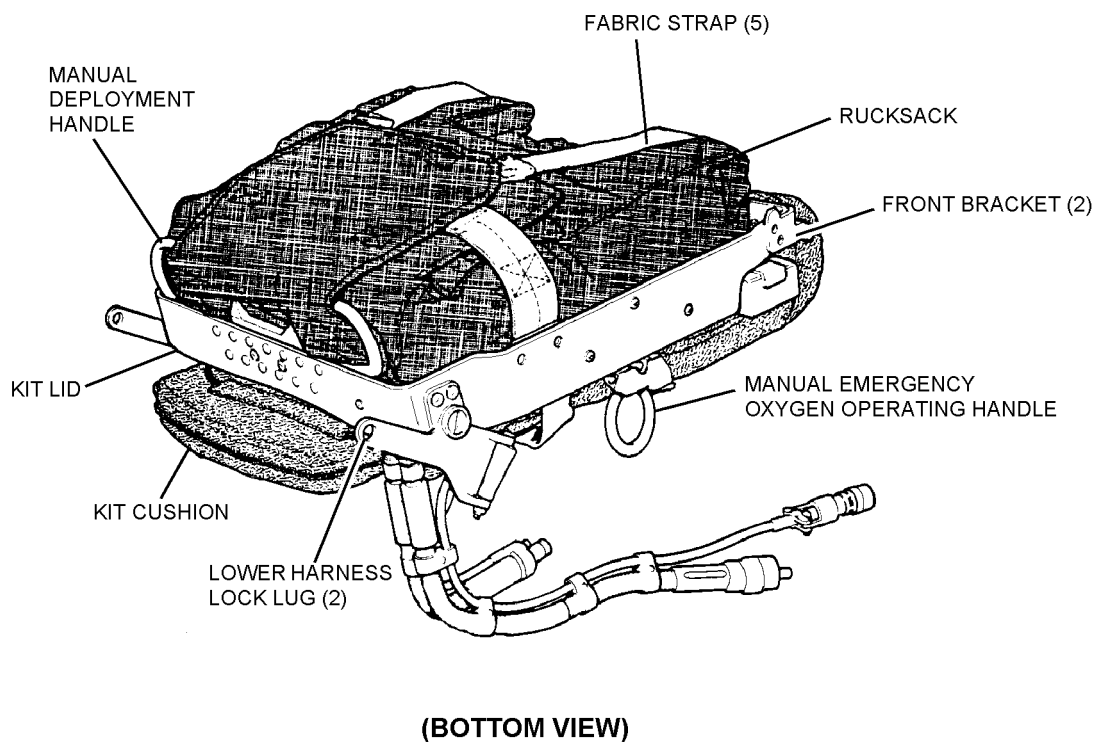
9-9. The fabric rucksack container is divided into two compartments. The larger compartment at the rear of the rucksack, houses the liferaft and is closed by four flaps. The front compartment contains basic survival items and is closed by a zipper. When installed, the rucksack is retained against the underside of the lid assembly by five strap assemblies. The five strap assemblies and the four rucksack assembly flaps are secured by the manual deployment handle assembly. The manual handle assembly consists of two release pins attached by cable to two yellow handles.

9-10. The seat cushion is positioned on top of the lid assembly secured by four snap fasteners; two forward on the bottom inboard side of the thigh pads and two aft near the corners. A fabric strip is sewn to the underside of the cushion to form retaining channels for the flexible radio beacon antenna. (Post ACC 646) The seat cushion is shorter in order to provide space for the forward/aft adjustment of the ejection seat backpad also introduced by ACC 646.

9-11. The LRU-23/P liferaft is manufactured from single ply polyurethane coated nylon fabric. The canopy and floor are fully inflatable for extra exposure protection and a spray visor is installed for visibility. The dropline which connects the liferaft CO₂ inflation assembly to the lid assembly is stored in the base of the liferaft compartment.



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Figure 9-1. Seat Survival Kit, SKU-11/A - Assembly

9-12. REFERENCE NUMBERS, ITEMS, AND SUPPLY DATA.

9-13. Figures 9-16 through 9-20 of the Illustrated Parts Breakdown (IPB) contain data for each assembly, subassembly, and component part of the SKU-11/A Seat Survival Kit Assembly. Each figure contains a Group Assembly Parts List which provides reference or part number, description, and units per assembly for each part within the illustrated assembly or subassembly. The IPB also contains a numerical index of part numbers. This list provides an alpha-numerical listing of all indexed parts illustrated in the IPB with a reference to their figure location and SM&R coding.

9-14. APPLICATION.

9-15. The SKU-11/A Seat Survival Kit assembly P/N 361E150-3 is designed for use in T-45 aircraft equipped with SJU-17(V)5/A and SJU-17(V)6/A ejection seats. The SKU-11/A Seat Survival Kit assembly P/N 361E150-5 is designed for use in T-45 aircraft equipped with SJU-17A(V)5/A and SJU-17A(V)6/A (Post ACC 646) ejection seats.

9-16. FUNCTION.

9-17. The survival kit provides support and comfort for the aircrewman, routing for oxygen and communications, and a platform base for mounting survival equipment and an emergency oxygen supply. Should the aircraft's oxygen system fail, or in the event of high altitude ejection, the emergency oxygen system will deliver breathing oxygen to the aircrewman.

9-18. IN-FLIGHT EMERGENCY. In the event of failure of the aircraft oxygen supply, the emergency oxygen system may be actuated by pulling the manual emergency oxygen actuation handle. If the aircraft oxygen supply is resumed, the emergency oxygen system may be reset by pushing the manual actuation handle back to its stowed position. The flow of emergency oxygen will be shut off and the system reset for normal use. An oxygen pressure gage mounted in the left thigh support shows oxygen pressure remaining.

9-19. EJECTION SEQUENCE. During the seat ejection sequence, emergency oxygen system is auto-

matically actuated by a lanyard attached to the cockpit floor. This initiates the same sequence of operation as the manual actuation handle.

9-20. As the ejection seat moves up the guide rails, the oxygen hose assembly is pulled free from the aircraft console. A shuttle valve at the survival kit input connect point prevents oxygen from escaping to the atmosphere (figure 9-2).

NOTE

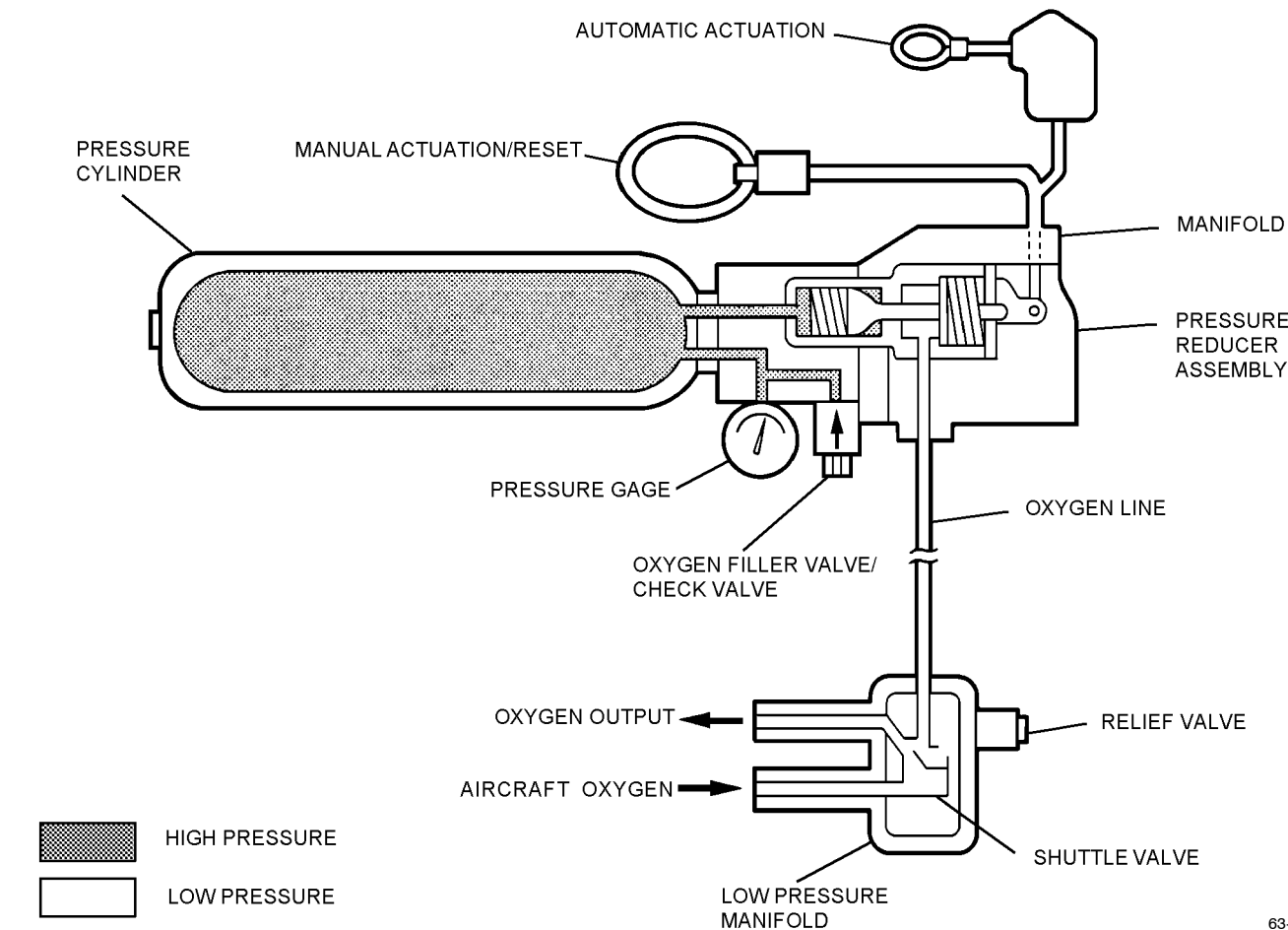
If automatic actuation of the emergency oxygen system fails, the system may be actuated by operating the manual actuation handle (green) located outboard of the aircrewmember's left thigh.

9-21. After a delay, varying with altitude and speed, the aircrewman's parachute will deploy and he will separate from the seat. The survival kit will remain attached to the aircrewman's torso harness.

9-22. Survival kit deployment during parachute descent may be actuated by pulling one of the manual deployment handles (yellow) at the rear of the survival kit. The rucksack will fall away extracting the liferaft and dropline. When the liferaft reaches the end of free-fall, the snubbing action on the dropline pulls a lanyard attached to the raft's CO₂ inflation assembly and the liferaft is inflated. The rucksack containing the basic survival items, is suspended below the inflated liferaft. The survival kit lid remains attached to the aircrewman by the lapbelts, which are connected to the PCU-56 series torso harness.

9-23. After entering the water, the aircrewman connects the liferaft retaining lanyard to an appropriate D-ring on his life preserver. He then boards the liferaft and retrieves the rucksack.

9-24. If the survival kit is not deployed until after water entry, operation of one of the manual deployment handles will release the survival package from the kit lid. The liferaft may then be manually inflated by pulling the liferaft manual inflation handle (attached to the dropline).



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Figure 9-2. Oxygen System - Schematic

Section 9-2. Modifications

9-25. GENERAL.

9-26. Modifications to the SKU-11/A Seat Survival Kit Assembly required or authorized at this time are listed in [Table 9-1](#).

Table 9-1. SKU-11/A Directives

Description of Modifications	Applications	Modification Code
NACES URT-33/A Beacon Radio and Emergency Oxygen Lanyard Connector Retention. This modification shall be incorporated at every 728-Day Inspection.	All NACES SKU-11/A Seat Survival Kits	IACC 66-570
To provide increased accommodation to Navy Common Ejection Seats (NACES) by modification of seat bucket and catapult (ECP MB 9230)	All NACES SKU-11/A Seat Survival Kits	ACC 646

Section 9-3. Rigging and Packing

9-27. GENERAL.

9-28. Unless operational requirements demand otherwise, rigging and packing of the SKU-11/A shall be accomplished at the Intermediate Level of maintenance every 24 months. The AN/URT-33A radio beacon shall be inspected every 364 days in accordance with inspection procedures listed in the NAVAIR 16-30URT33-1.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation and then have performance verified by Quality Assurance (QA).

9-29. RIGGING AND PACKING PROCEDURES.

9-30. Rigging and packing of the SKU-11/A shall be accomplished in nine separate operations as follows:

1. Preliminary Procedures.
2. Radio Beacon Rigging and Installation.
3. Survival Equipment Binding.
4. Survival Equipment Packing.
5. Stowing Dropline.
6. Liferaft Preparation.
7. Attaching and Stowing Sea Anchor.
8. Liferaft Folding and Stowing.
9. Closing Liferaft Container.

CAUTION

Ensure that the survival kit assembly is rigged and packed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose the kit to any oily substances. Do not slide kit on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the survival package or liferaft assembly.

9-31. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-11/A.

1. Ensure SKU-11/A and components have been inspected in accordance with [Section 9-5](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.

WARNING

CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

4. Disconnect CO₂ cylinder from liferaft as follows:
 - a. Carefully remove liferaft from container.
 - b. Disconnect actuation line from CO₂ cylinder.

- c. Disconnect CO₂ cylinder from liferaft.
- d. Remove large loop of drop line from CO₂ cylinders neck.
- e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.

- 5. Ensure liferaft and CO₂ cylinder have been inspected in accordance with NAVAIR 13-1-6.1-1.
- 6. Remove and discard rubber bands from drop-line.

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 26 feet, 4 inches ± 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of ± 12 inches is acceptable for an older dropline assembly.

- 7. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 26 feet, 4 inches ± 12 inches.
- 8. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.

- 9. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.
- 10. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of attachment, corrosion, damage, wear, and ease of operation.

9-32. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Actuator Indicator Assembly	125B300-1
1	Pin, Cotter, Hairpin	LHCOTC NIIN 00-956-5633
1	Lanyard, Actuating	Fabricate IAW paragraph 9-101
As Required	Thread, Nylon, Size E, Type II Class A	V-T-295 NIIN 00-244-0609 or equivalent
3	Rubber Bands, Type I	MIL-R-1832 NIIN 00-568-0323

Support Equipment Required

Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 9-102

NOTE

Inspect actuating lanyard to ensure lanyard has been modified in accordance with [paragraph 9-101](#).

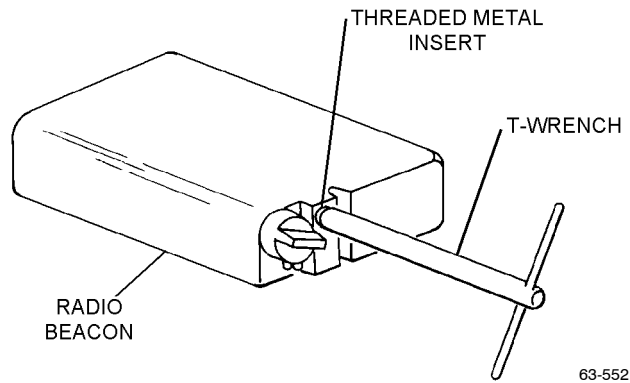
- 1. Ensure radio beacon ON/OFF slider switch is in OFF position, then determine if radio beacon has been modified in accordance with [steps 2 through 5](#).

NOTE

When slider switch is in OFF position, the ON position placard on beacon housing is not visible.

- 2. Remove automatic actuation plug and lanyard from radio beacon assembly.

3. Using locally fabricated T-wrench, remove threaded metal insert from radio beacon actuator plug position.



Step 3 - Para 9-32

4. Install actuator indicator assembly handtight in position from which threaded insert was removed.

5. Install hairpin cotter through loop on actuating lanyard tested and inspected in accordance with [paragraph 9-101](#).

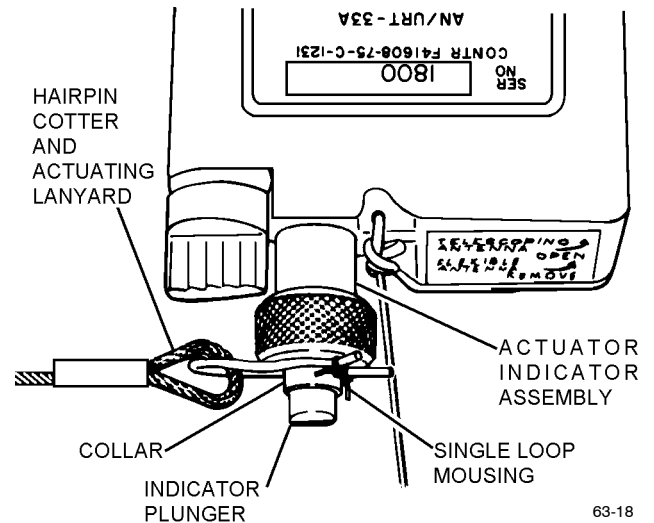
6. Depress actuator indicator plunger, align holes on collar and plunger, and insert hairpin cotter attached to lanyard loop.

7. Ensure hairpin cotter and collar are free to rotate 360° without binding.

NOTE

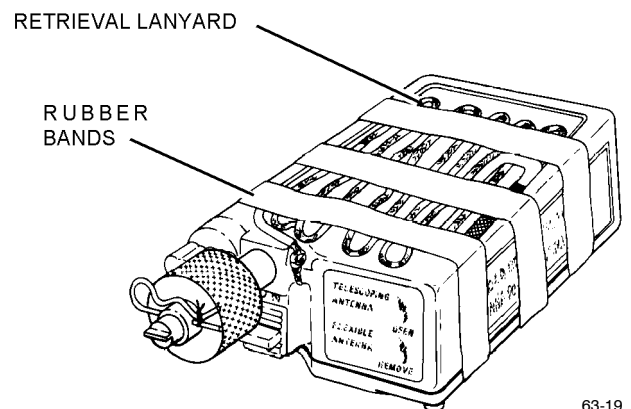
If there is no evidence of binding, proceed to [step 8](#). If hairpin cotter and collar do not rotate freely, refer to NAVAIR 16-30URT33-1.

8. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing using size E nylon thread. Secure mousing loop with square knot. Cut off excess thread approximately 1/8 inch from knot.



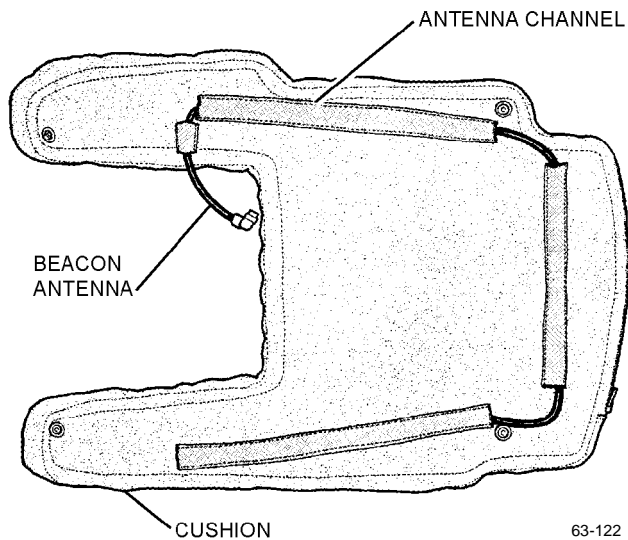
Step 8 - Para 9-32

9. Accordion-fold retrieval lanyard on top of radio beacon and secure with three rubber bands. Ensure retrieval lanyard is attached at both ends with a bow-line knot, with an overhand knot tied at the tag end.



Step 9 - Para 9-32

10. Insert flexible radio beacon antenna into retaining channel sewn on underside of seat cushion.



Step 10 - Para 9-32

11. Connect flexible antenna to radio beacon receptacle by pushing bayonet type fitting in and rotating to the right (clockwise).

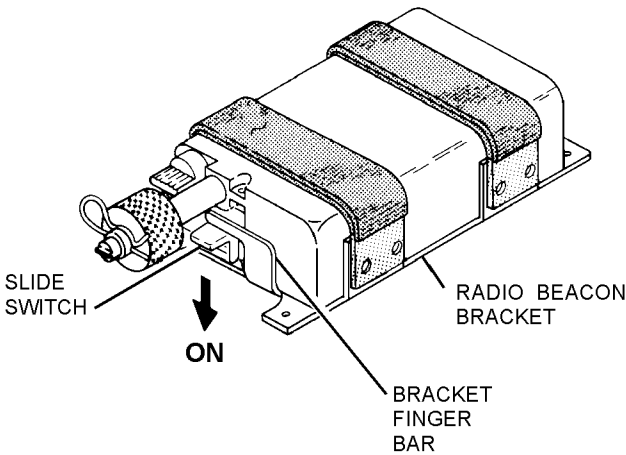
NOTE

Check to ensure actuator indicator plunger is secure in depressed position and hairpin cotter is safety-tied before moving slider switch to ON (armed) position.

12. Place beacon slider switch in ON (armed) position.

13. Holding beacon at approximately 45° angle install in beacon bracket with slider switch under the bracket finger bar. Press opposite end of beacon down to seat in bracket.

14. Ensure slider switch is secure in ON position under finger bar. Then secure radio beacon in bracket with hook and pile fastener.



Step 14 - Para 9-32

15. Check to ensure that antenna has not dislodged from beacon and position cushion on kit lid.

16. Position front edge of cushion's aft snap fasteners on lid snap fastener receptacles and press down to engage. Lift gently to check for proper connection.

17. Position lower edge of front snap fasteners on lid snap fastener receptacles and press down to engage. Lift gently to check for proper connection.

9-33. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 Technical manual before binding. To bind survival items, proceed as follows. Refer to [table 9-2](#).

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type I	MIL-C-5040
As Required	Cloth, Duck, Nylon	MIL-C-3953
2	Envelope, Clear Vinyl Plastic	MIL-B-117

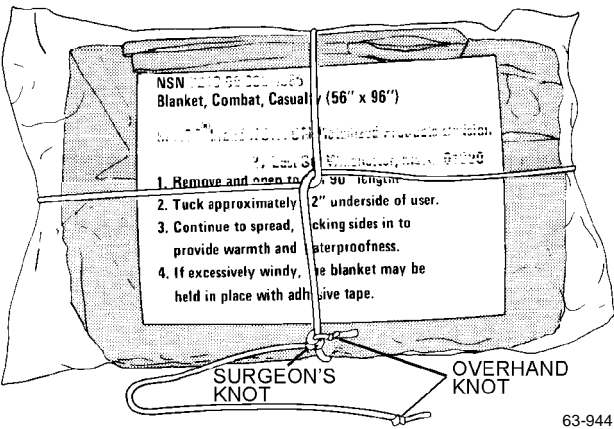
Table 9-2. Survival Kit Items (Note 1)

Item Name	Quantity	Reference Number
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Nylon Cord, Type 1	50 ft	NAVAIR 13-1-6.5
Bailing Sponge, Type 2, Class 2	1	NAVAIR 13-1-6.5
Combat Casualty Blanket	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet No. 1 (Medical) (Note 2)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet No. 2 (General) (Note 2)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 4)	Optional	NAVAIR 13-1-6.5
Radio Beacon	1	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 3) or	6	NAVAIR 13-1-6.5
Water, Drinking Emergency (118 ml) (Note 3)	3	NAVAIR 13-1-6.5
Smoke and Illumination Signal, (MK 13 MOD 0 or MK 124 MOD 0)	2	NAVAIR 13-1-6.5
Sea Dye Marker	1	NAVAIR 13-1-6.5
Latex Surgical Tubing	5 ft	NAVAIR 13-1-6.5
<p>Notes: 1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIR-WARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.</p> <p>2. SRU-31/P complete kit consisting of both the Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.</p> <p>3. If Bag, Drinking Water (50 ml), is not available, substitute Water, Drinking Emergency (118 ml), NAVAIR 13-1-6.5.</p> <p>4. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.</p>		

NOTE

To prevent loss of survival items, tie them individually and then tie them to a 155-inch length of nylon cord. Cord of the prescribed length required for this procedure shall be seared at both ends to prevent fraying (table 9-3). All cord used shall be nylon (MIL-C-5040, Type I).

1. Combat Casualty Blanket. Tie overhand knot in each end of a 40-inch length of nylon cord. Wrap cord round casualty blanket. Rotate cord one quarter turn and wrap cord ends round opposite end of blanket. Tie with surgeon's knot. Ensure that an overhand knot is positioned snugly against surgeon's knot.

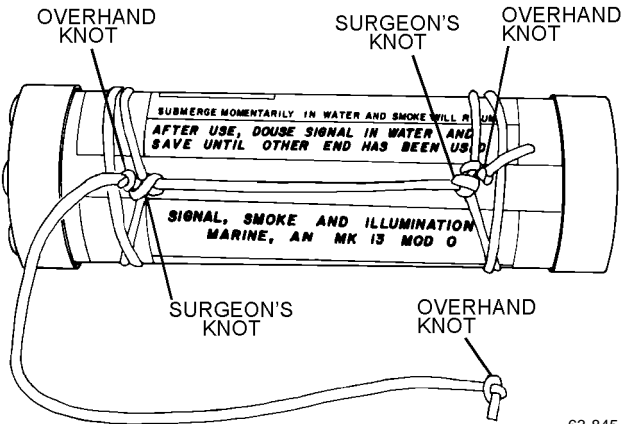


Step 1 - Para 9-33

Table 9-3. Nylon Cord Lengths Required For Binding

Length (Inches)	Number Required
12	5
24	2
30	1
36	2
40	1
155	1

2. Smoke and Illumination Signals. Tie overhand knot in both ends of a 36-inch length of nylon cord. Wrap one end of cord two overlapping turns around one end of signal flare and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Route cord to opposite end of flare and tie in same manner. Cord between end-ties shall be drawn tight. Repeat procedure for second flare.



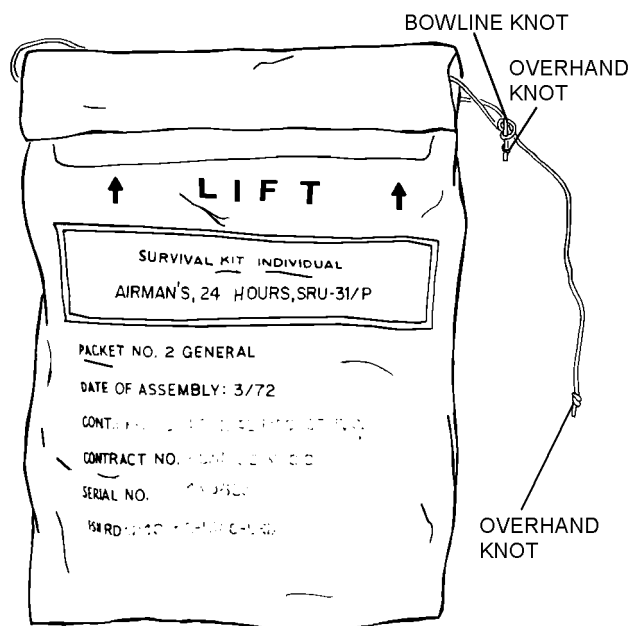
Step 2 - Para 9-33

3. Sea Dye Marker. Tie overhand knot at each end of a 12-inch length of nylon cord. Pass overhand knot through center grommet in dye marker and tie a bowline knot allowing a 1-inch loop. Position an overhand knot snugly against the bowline knot.



Step 3 - Para 9-33

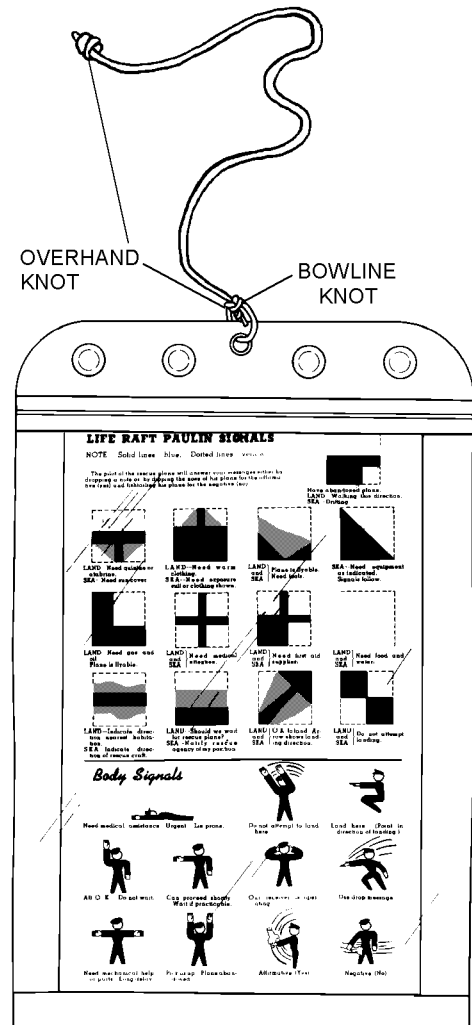
4. SRU-31/P Survival Kit Packets #1 (Medical) and #2 (General). Tie overhand knot in both ends of a 24-inch length of nylon cord. Pass cord-end overhand knot through the tunnel formed by the cover flap and tie with a bowline knot allowing a four-inch loop. Position an overhand knot snugly against bowline knot. Tie Packet #2 in same manner.



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Step 4 - Para 9-33

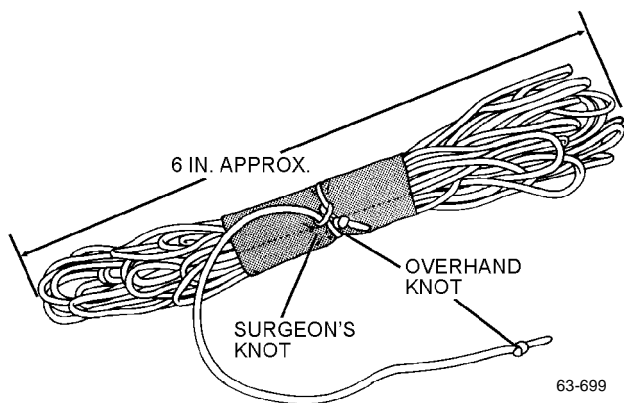
5. Ground/Air Emergency Code Card. Place Ground/Air Emergency Code Card into clear vinyl envelope (MIL-B-117) and close sealing slide fastener. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass knot at one end through center hole in envelope. Secure with bowline knot with 1-inch loop; position overhand knot snugly against bowline knot.



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Step 5 - Para 9-33

6. Nylon Cord, Type I, 50 Feet. Cut one 2-inch by 4-inch piece of nylon duck material. Accordion-fold entire length of nylon cord in 6-inch bights and wrap nylon duck material around center of accordion folded cord. Tie an overhand knot at each end of a 12-inch length of nylon cord. Wrap one end of cord around center of duck material and cord bundle and tie with surgeon's knot. Ensure overhand knot is positioned snugly against surgeon's knot.

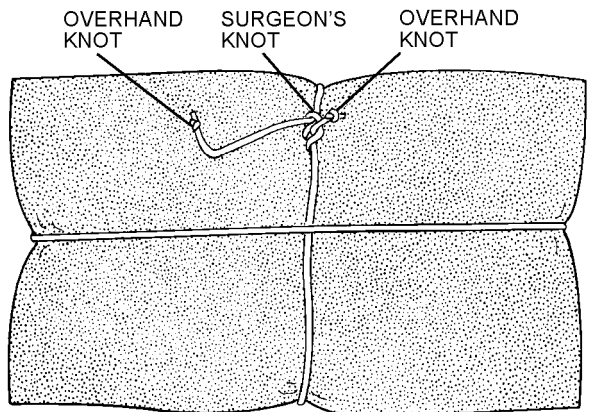


Step 6 - Para 9-33

NOTE

The bailing sponge should be compressed to a minimum thickness by compressing while damp and allowing it to dry in the compressed state before binding.

7. Bailing Sponge. Tie overhand knots in each end of a 30-inch length of nylon cord. Wrap cord around sponge until both ends meet, then rotate cord one quarter turn and wrap cord ends around opposite sides of sponge. Tie with surgeon's knot. Ensure an overhand knot is placed snugly against surgeon's knot.



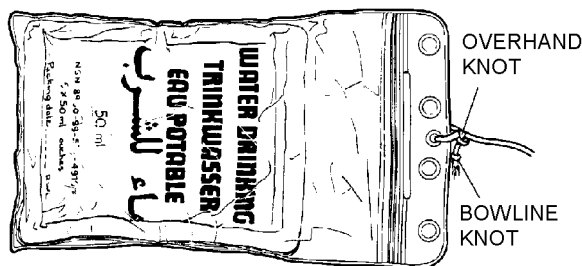
Step 7 - Para 9-33

8. Water Packets.

a. When utilizing Bag, Drinking Water (50 ml), NIIN 99-537-4919, place 6 water packets flat into clear vinyl envelope (MIL-B-117) and close sealing slide fastener.

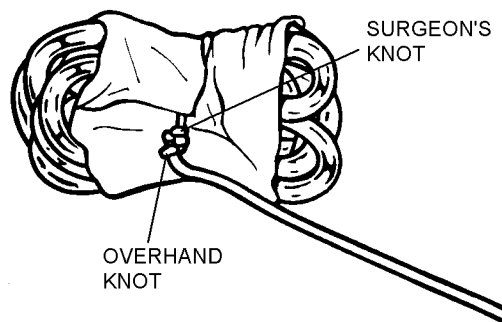
b. When utilizing Water, Drinking Emergency (118 ml), MIL-W-44126, fold the spout over about 1 1/2 inches, then fold bag in half. Place 3 individually folded bags into clear vinyl envelope (MIL-B-117) and close sealing slide fastener.

c. Using 12 inch length of nylon cord, tie overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1 inch loop. Position an overhand knot snugly against the bowline knot.



Step 8 - Para 9-33

9. Surgical Tubing. Cut one 2-inch by 5-inch piece of nylon duck material. Accordion-fold latex surgical tubing in 4-inch bights and wrap material around center of accordion folded tubing. Using 12-inch length of nylon cord, tie overhand knot near each end and secure one end of cord to center of material with surgeon's knot. Position an overhand knot snugly against surgeon's knot.



Step 9 - Para 9-33

10. Binding Survival Items to Retaining Cord. Form an overhand loop knot approximately 12 inches from one end of a 155-inch length of nylon cord. Continue making four additional overhand loop knots approximately 5 inches apart. Leave a 16-inch space and make six more overhand loop knots. A total of 11 overhand loop knots will be required.

11. Beginning at the first loop knot, tie one survival item to each overhand loop using a surgeon's knot in the order stated below (figure 9-3.) Draw overhand knot tight after attaching survival item.

- a. SRU-31/P Packet No. 1 (Medical).
- b. Combat Casualty Blanket.
- c. Smoke and Illumination Signal.
- d. Smoke and Illumination Signal.
- e. Ground/Air Emergency Code Card.
- f. Bailing Sponge.
- g. Surgical Tubing.
- h. Nylon Cord, Type 1.
- i. SRU-31/P Packet No. 2 (General).
- j. Sea Dye Marker.
- k. Bagged Water.

9-34. SURVIVAL EQUIPMENT PACKING. Pack survival equipment in rucksack as follows:

NOTE

No item has a top or bottom designation; however its longitudinal axis may be important.

References to left and right indicate relative positions when installed in aircraft. Rucksack pockets are marked L and R.

1. Ensure oxygen/communications hose assembly is not installed on survival kit lid. Position lid upside down on table with oxygen ON/OFF handle over edge of table and leg supports toward operator. Position survival equipment rucksack inside survival kit lid.

NOTE

If removing the oxygen/communications assemblies, cap inlet and outlet unions and ensure safe keeping of filter element in oxygen inlet union of low pressure manifold.

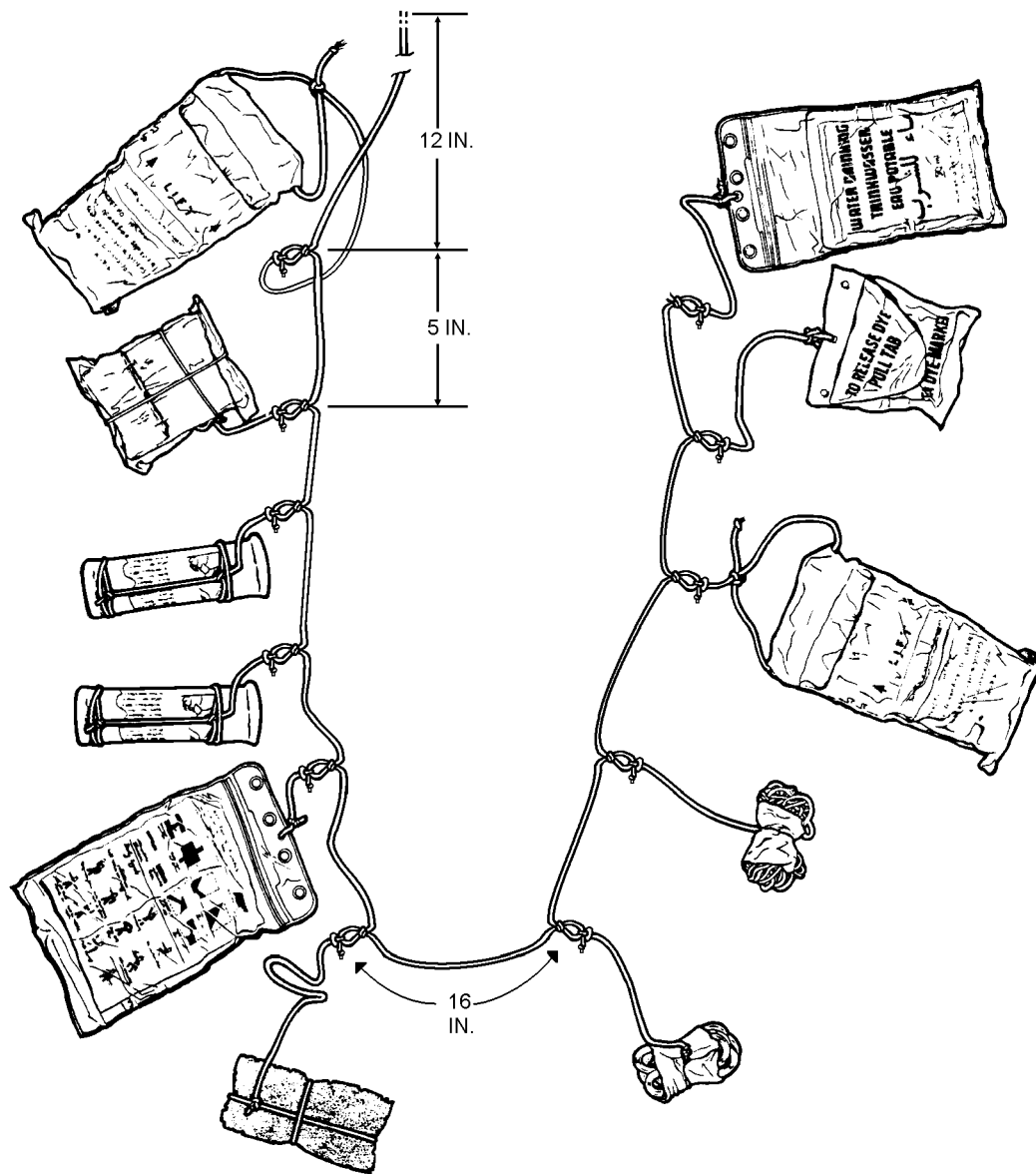
2. Open slide fastener.
3. Position bound items to be packed in front of survival kit.
4. Insert 12-inch bitter end (closest to SRU-31/P Packet No. 1) of 155-inch nylon cord through loop in inside center of rucksack. Tie with an approximate 2-inch loop bowline knot and an overhand knot. Ensure that overhand knot is snugly against bowline.

NOTE

Some early issue survival kits have slide fasteners which close from right to left and later kits have slide fasteners which close from left to right. Two procedures are therefore given for stowing the survival items.

5. If rucksack slide fastener closes from right to left, stow bound survival items into equipment compartment of rucksack as follows:

- a. Fold SRU-31/P Packet No. 1 and stow in right leg pocket of rucksack. Position packet in bottom of pocket.
- b. Stow casualty blanket on top of SRU-31/P Packet No. 1.
- c. Stow the two smoke and illumination signals side-by-side on top of the casualty blanket; longitudinal axis lying fore and aft.
- d. Stow ground/air emergency code card on top of signals; longitudinal axis lying fore and aft.
- e. Stow sponge on top of emergency code card.
- f. Ensure that survival items in right pocket are properly stowed.
- g. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to left to close right leg pocket of rucksack to retain survival items.
- h. Position 16-inch length of cord (without knots) in tunnel between leg pockets.
- i. Stow surgical tubing and nylon cord in pocket at bottom rear of left leg pocket of rucksack.



NOTE: OVERHAND LOOPS ARE SHOWN LOOSE (OPEN) FOR ILLUSTRATIVE PURPOSES.

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Figure 9-3. Binding Survival Items

j. Stow SRU-31/P Packet No. 2 in left leg pocket. Position flat in bottom of pocket leaving top flap out at front of pocket.

k. Stow sea dye marker behind SRU-31/P No. 2.

l. Stow bagged water flat on top of SRU-31/P, longitudinal axis lying fore and aft.

m. Fold top flap of SRU-31/P Packet No. 2 over other items.

n. Ensure that survival items are properly stowed.

o. Ensure that nylon cord does not become trapped in slide fastener. Move slide fastener to left to close survival equipment compartment of rucksack.

p. Secure hook and pile tape on container.

6. If rucksack slide fastener closes from left to right, stow bound survival items into equipment compartment of rucksack as follows:

a. Stow surgical tubing and nylon cord at bottom rear of left leg pocket.

b. Stow SRU-31/P Packet No. 2 in left leg pocket. Position flat in bottom of pocket leaving top flap out at front of pocket.

c. Stow sea dye marker behind SRU-31/P No. 2.

d. Stow bagged water flat on top of SRU-31/P, longitudinal axis lying fore and aft.

e. Fold top flap of SRU-31/P No. 2 over other items.

f. Ensure that survival items in left leg pocket are properly stowed.

g. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to right to close left leg pocket to retain survival items.

h. Position 16-inch length of cord (without knots) in tunnel between leg pockets.

i. Fold SRU-31/P Packet No. 1 and stow in right leg pocket of rucksack. Position packet in bottom of pocket.

j. Stow casualty blanket on top of SRU-31/P Packet No. 1.

k. Stow the two smoke and illumination signals side-by-side on top of the casualty blanket, longitudinal axis lying fore and aft.

l. Stow ground/air emergency code card on top of signals, longitudinal axis lying fore and aft.

m. Stow sponge on top of emergency code card.

n. Ensure survival items in right leg pocket are correctly stowed.

o. Ensure nylon cord does not become trapped in slide fastener. Move slide fastener to right to close survival equipment compartment of rucksack.

p. Secure container's hook and pile fasteners.

9-35. STOWING DROPLINE. Stow dropline as follows:

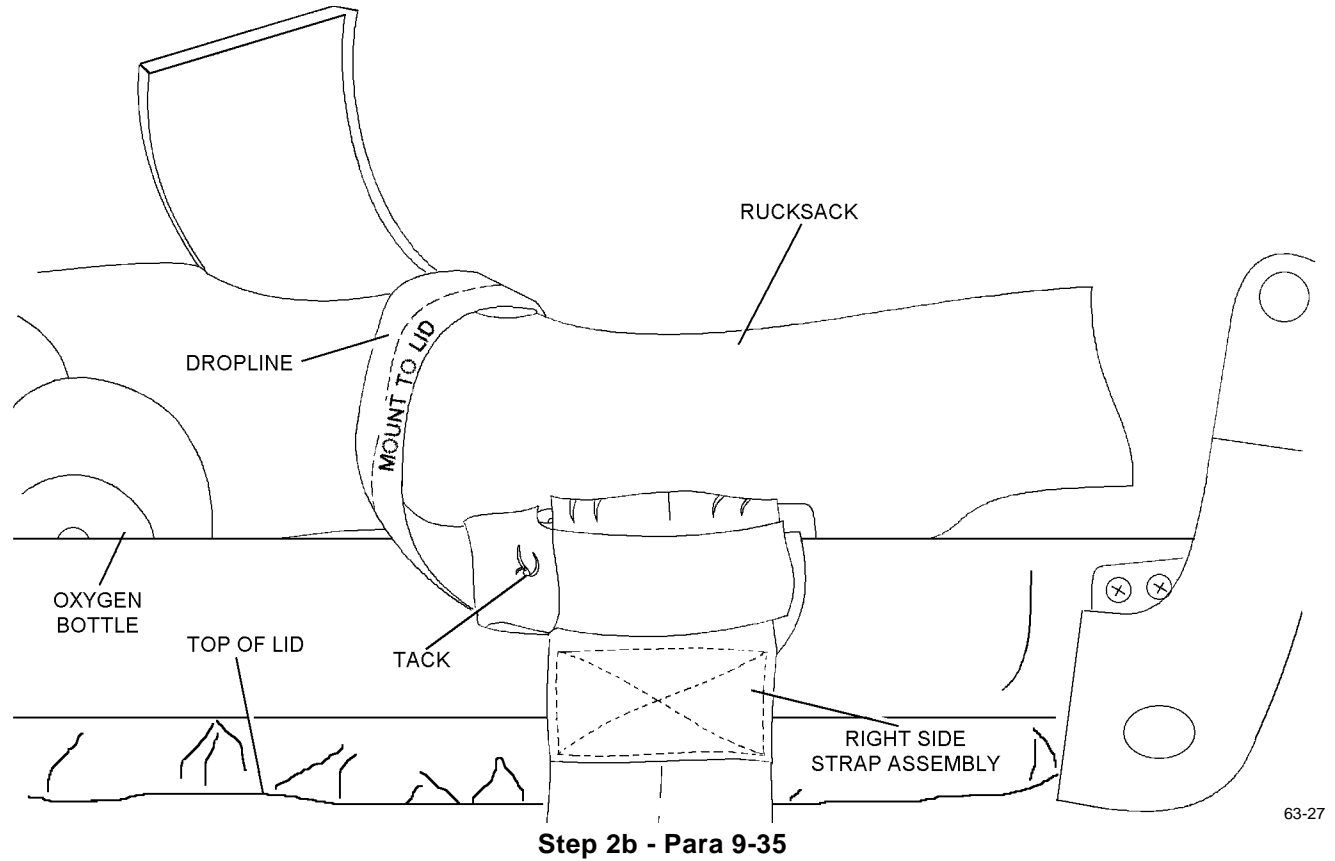
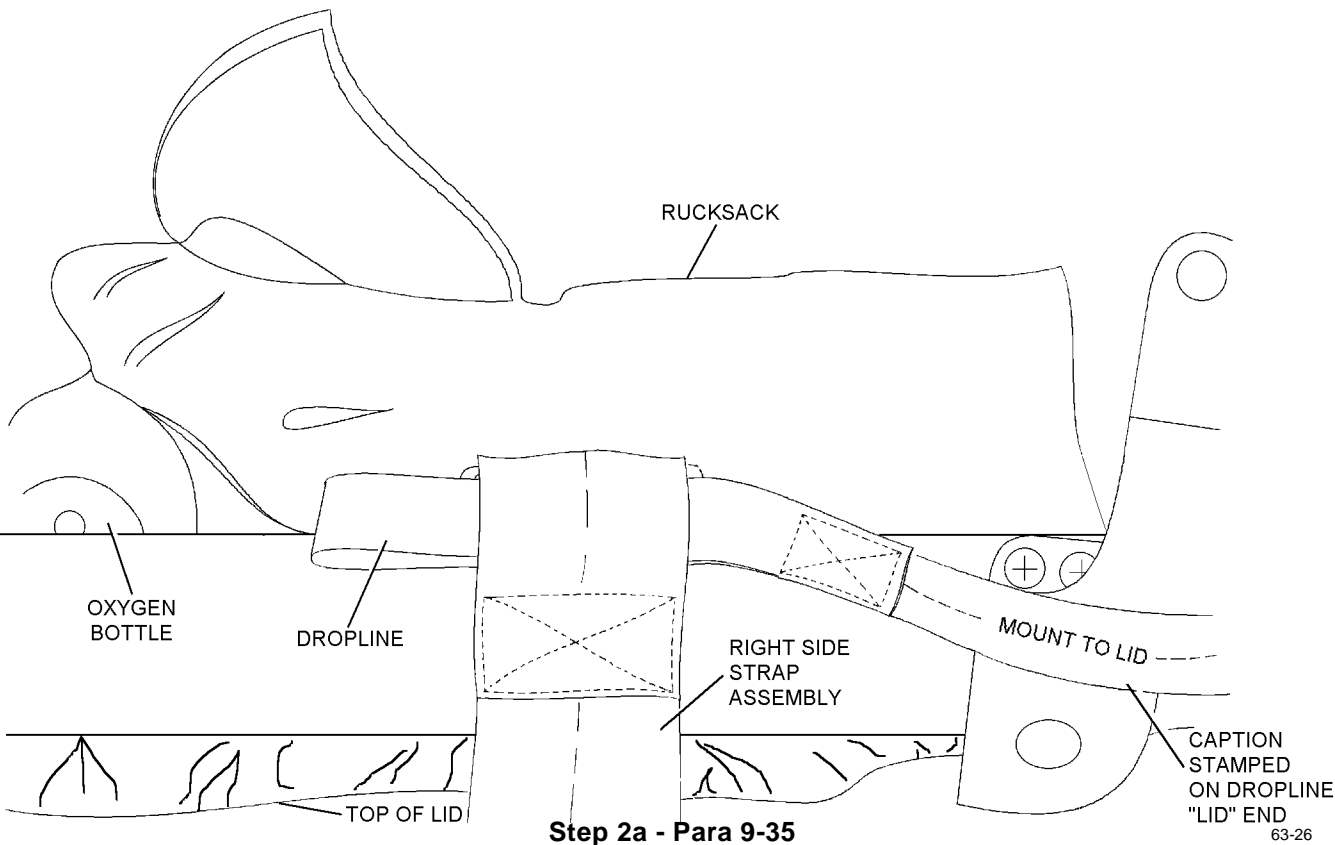
Materials Required

Quantity	Description	Reference Number
15 in.	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146 or equivalent
4	Rubber Bands, Type I	MIL-R-1832 NIIN 00-528-0323
As Required	Thread, Nylon, Size E, Type I, Class A	V-T-295 NIIN 00-244-0609 or equivalent

1. Lay out dropline between rucksack and lid. Remove all twists. Ensure that short end (closest to red loop) is toward rucksack and long end is toward lid.

2. Ensure the dropline is attached to rucksack assembly as specified in the steps below. If incorrectly installed or not installed attach as follows:

a. Pull looped end of dropline marked "mount to lid" through the right side strap assembly loop where it is attached to the bracket. Create a lark's head knot by pulling the opposite end of dropline through loop end that had been pulled through the right side strap assembly. Tack lark's head knot and webbing of strap assembly using waxed 6 cord, tied with surgeon's knot followed by a square knot.



NOTE

tack lark's head knot with waxed 6 cord, tied with a surgeon's knot.

Before proceeding, ensure no twists or knots are in dropline.

NOTE

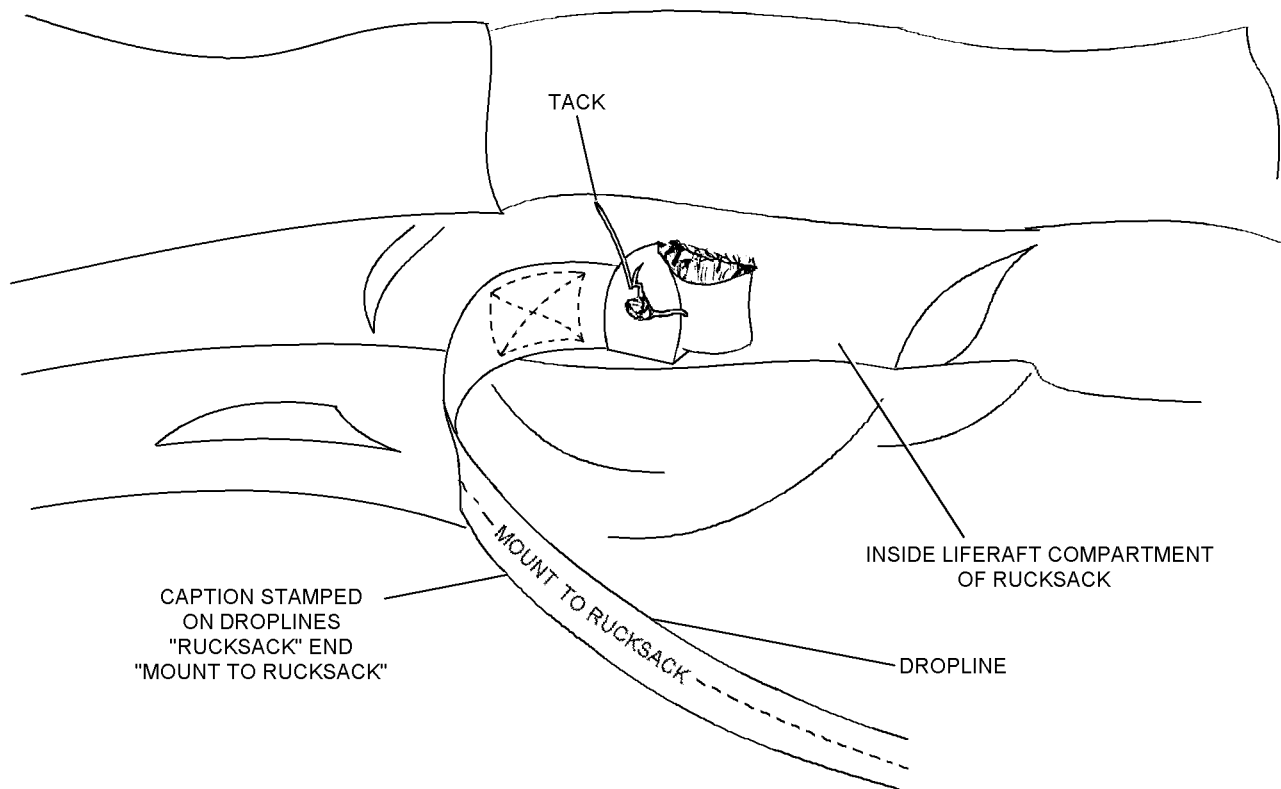
Before reattachment of the right side strap assembly, ensure the dropline does not have any twists or knots.

b. Remove the right side strap assembly using a phillips screwdriver and 3/8 inch wrench. Retain screws and nuts.

d. Reattach the right side strap assembly ensuring that the lark's head knot is facing in the same direction when first attached to the side strap assembly. This is to ensure that the part number on the right side strap assemblies bracket is still visible.

c. Pull looped end of dropline marked "mount to rucksack" through loop inside the liferaft compartment of the rucksack. Pull the right side strap assembly and dropline through loop creating a lark's head knot (step a) and if no twists or knots are in dropline,

e. Ensure Dropline has been attached properly.



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NAVAIR 13-1-6.3-2

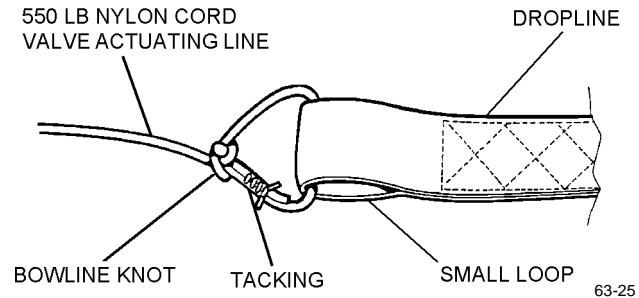
3. Fold dropline into bights. Secure bights with rubber bands.

4. Stow folded dropline in base of liferaft compartment.

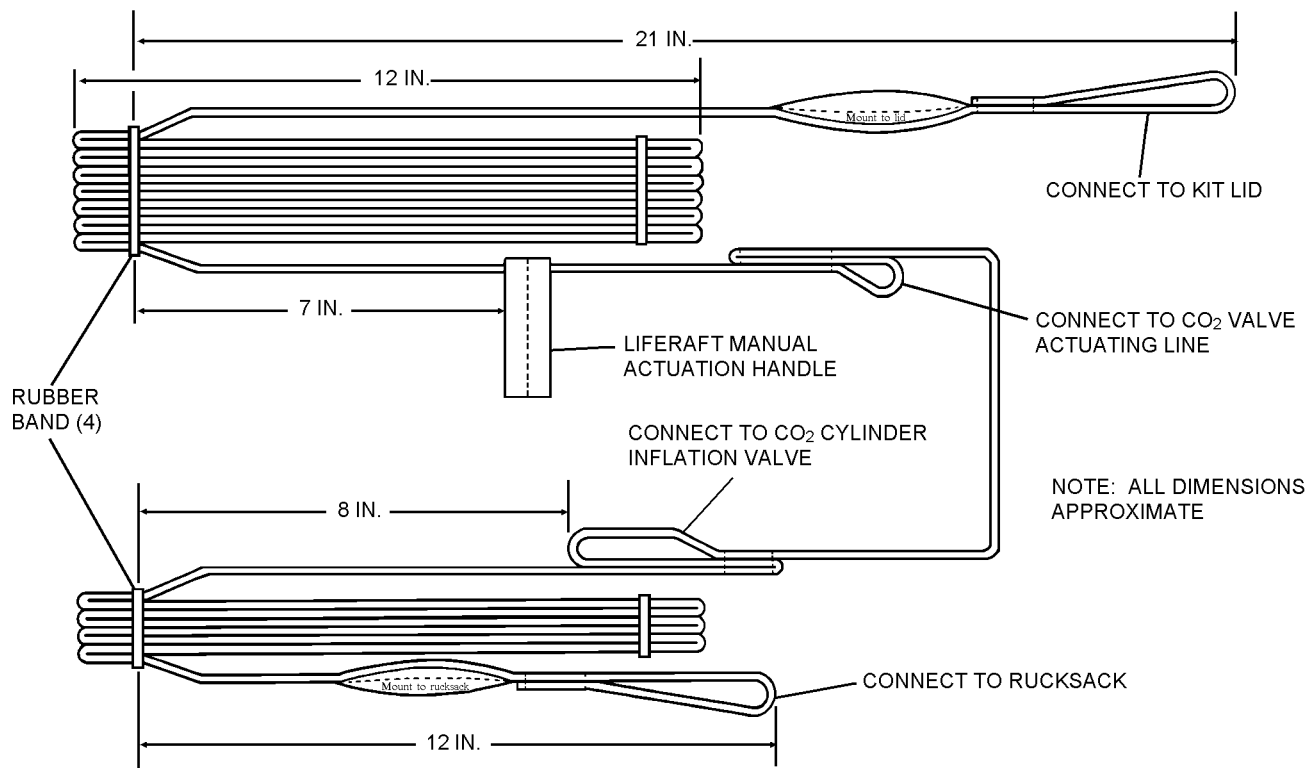
5. If the valve actuating line is damaged, incorrectly installed or not installed, install a new line as follows:

a. Cut a 15-inch length of 550-pound Type III nylon cord and sear ends.

b. Route one end through small loop on drop-line and tie bowline knot. Tack with three turns of waxed, size E nylon thread, single. Tie ends with surgeon's knot followed by square knot.



Steps 5a and b - Para 9-35



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Step 3 - Para 9-35

9-36. LIFERAFT PREPARATION. Prepare liferaft for packing as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Talcum, Technical	MIL-T-50036A NIIN 01-080-9589
As Required	Thread, Nylon, Size 6, Type II, Class A	V-T-295 NIIN 00-559-5211 or equivalent
As Required	Thread, Nylon, Size E, Type I, Class A	V-T-295 NIIN 00-244-0609 or equivalent

1. Lay liferaft out flat with CO₂ cylinder adjacent to survival kit liferaft compartment (inside up and bow to the right).

NOTE

Ensure CO₂ cylinder has been removed from liferaft before proceeding to next step.

2. Deflate the liferaft in accordance with NAVAIR 13-1-6.1-1, ensuring that all air is removed and oral inflation valve is locked and stowed in pocket.

3. Lightly dust entire raft with talcum powder.

NOTE

Do not connect inflation valve to raft inlet valve at this time.

4. Install properly charged CO₂ cylinder in liferaft stowage pocket.

WARNING

The CO₂ cylinder contains gas under pressure. Do not loosen or attempt to remove inflation valve assembly from cylinder. Explosion may result.

5. Attach loop end of raft retaining lanyard around neck of inflation valve at CO₂ cylinder using lark's head knot (figure 9-4). Pull knot tight and tack with two turns of waxed, 6-cord, nylon thread, single. Tie ends with surgeons knot followed by a square knot.

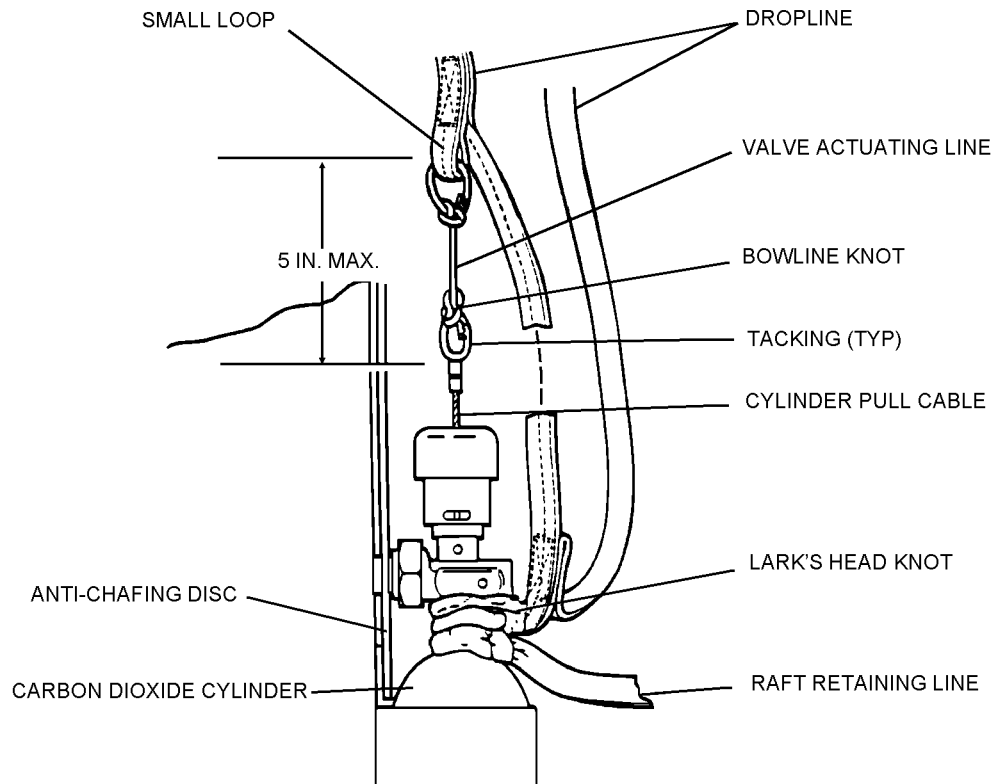


Figure 9-4. Liferaft Inflation Assembly

63-129

6. Accordion-fold raft retaining lanyard into 3-inch bights and stow in stowage pocket on raft. Make sure clip is enclosed in lanyard and that loop end is outside pocket. Close stowage pocket flap and secure with hook and pile fastener.

7. Attach large loop of dropline around neck of inflation valve at cylinder using lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord single. Tie ends with surgeon's knot followed by square knot.

8. Ensure anti-chafing disc is installed. Connect inflation valve to liferaft inlet valve. Torque coupling nut to 80-90 inch-pounds, taking care not to damage inlet valve.

WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

9. Pass actuating line through loop in end of cylinder pull cable (figure 9-4). Tie loop, using bowline knot. Tack with three turns of waxed, size E, nylon thread, single. Tie ends with surgeon's knot followed by square knot. Finished length shall not exceed 5 inches.

CAUTION

Ensure that end of dropline attached to rucksack does not become entangled in the liferaft during the folding operation.

10. Position short end of dropline leading to survival package (rucksack) clear of CO₂ cylinder.

9-37. ATTACHING AND STOWING THE SEA ANCHOR. Refer to figure 9-5 and attach and stow the sea anchor as follows:

Materials Required

Quantity	Description	Reference Number
10 ft	Cord, Nylon, Type I	MIL-C-5040

1. Tie one end of a 10-foot length of Type I nylon cord to the eye of the sea anchor using a bowline knot.

2. Tie the free end of the cord to the sea anchor attachment loop at the bow end of the liferaft using a bowline knot.

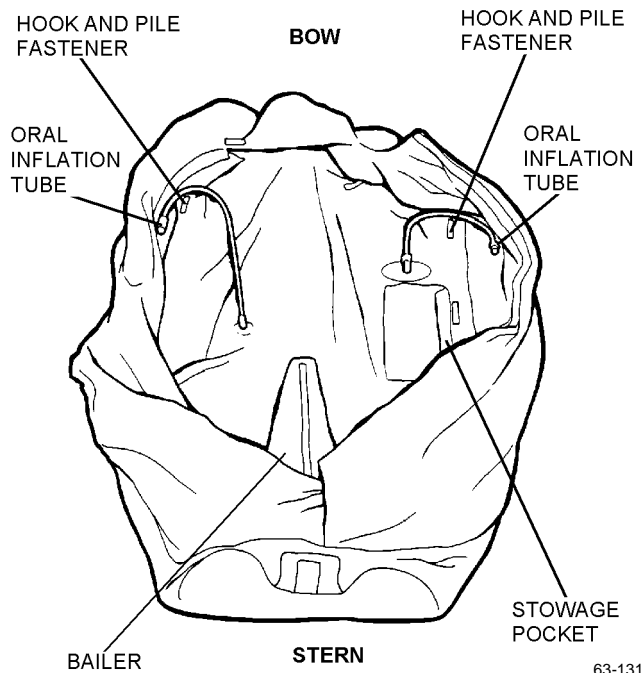
3. Lay out the sea anchor adjacent to stowage position and fake the attachment cord into the center the anchor (step 1). Roll the sea anchor toward the attachment point, enfolding the attachment cord (step 2).

4. Place the rolled sea anchor between the hook and pile fastener strips at the bow end of the liferaft. If necessary, crease the liferaft so that fastener strips engage to secure the sea anchor and attachment cord (step 3).

9-38. FOLDING THE LIFERAFT. Fold the liferaft as follows:

1. Ensure that all trapped air is expelled from the liferaft.

2. Lay the floor and buoyancy chamber oral inflation tubes toward the bow-end, inboard of the bow-end hook and pile tape fastener patches. Curve the tubes back toward the stern, outboard of the tape fastener patches.



Step 2 - Para 9-38

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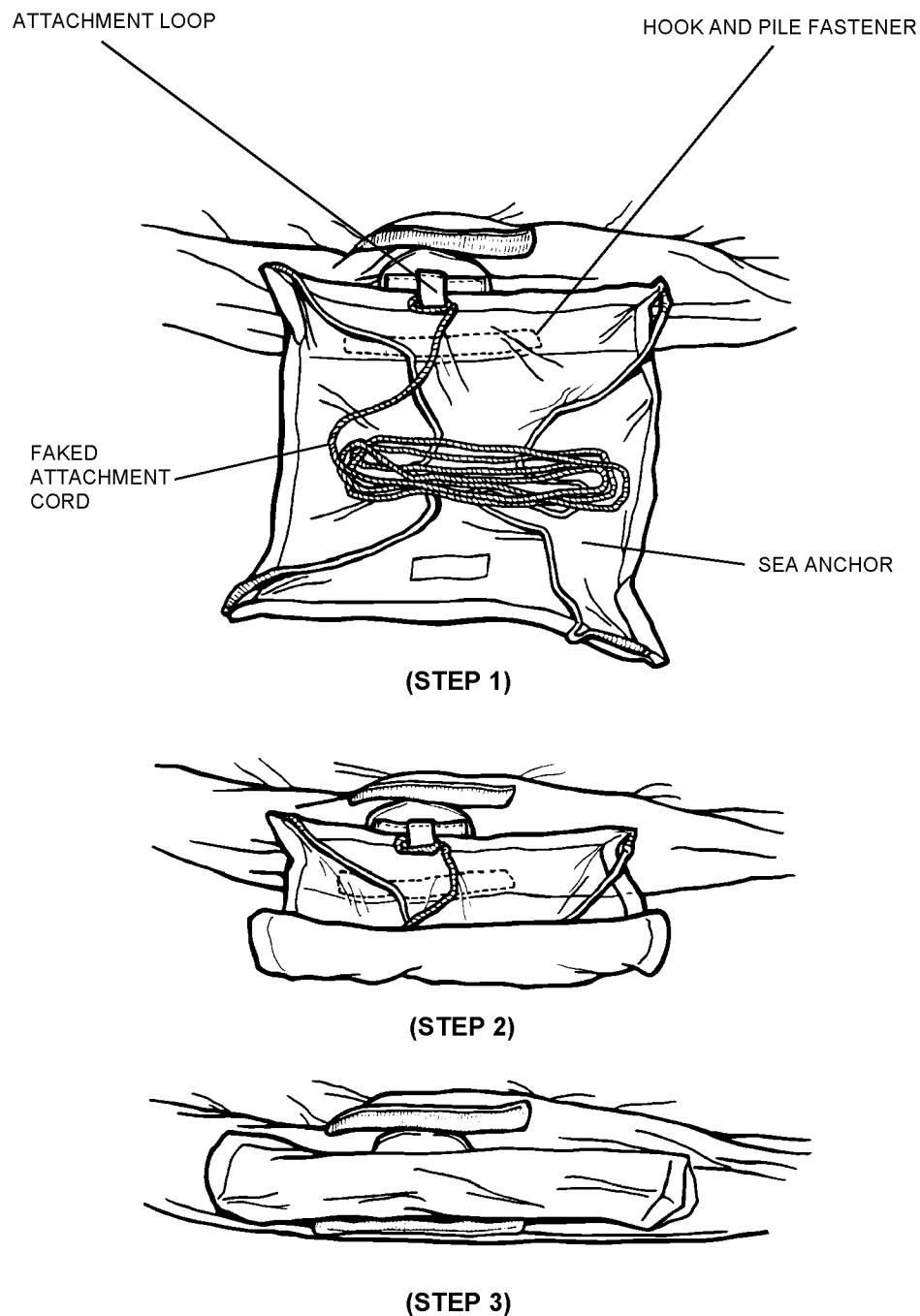


Figure 9-5. Sea Anchor Attaching and Stowing

63-130

3. Starting at the bow-end, fold the canopy under and mate with the three hook and pile fastener tape fastener patches on each side of the buoyancy chamber. Ensure that the oral inflation tubes curve around the bow-end tape fastener patches from inboard to outboard and back toward the stern.

4. Fold the hood portion of the canopy toward the stern and lay the visor flat and even under the hood.

5. Lay canopy sides flat and even on the buoyancy chamber.

6. (Refer to [figure 9-6](#)) Fold stern of liferaft inboard to the center and align outer edge of fold approximately one inch wider than the end of the CO₂ cylinder ([step 1](#)).

7. Fold inboard end back on itself so inboard edge of fold aligns with end of inflation valve ([step 2](#)).

8. Fold bow end inboard to the center and align outer edge of fold approximately one inch wider than the end of the inflation valve. Smooth down the folds and lay the water pockets flat ([step 3](#)).

9. Fold the inboard end back on itself so that the inboard end aligns approximately with the end of the CO₂ cylinder and smooth down the folds ([step 4](#)).

10. Tuck the end of the fold adjacent to the CO₂ cylinder under so that the liferaft does not protrude beyond the cylinder ([step 5](#)).

9-39. STOWING THE LIFERAFT. Stow the life raft as detailed below:

1. Ensure dropline is stowed neatly in bottom of liferaft compartment.

2. Position liferaft in compartment so that CO₂ cylinder lies adjacent to emergency oxygen cylinder with dropline aft of CO₂ cylinder.

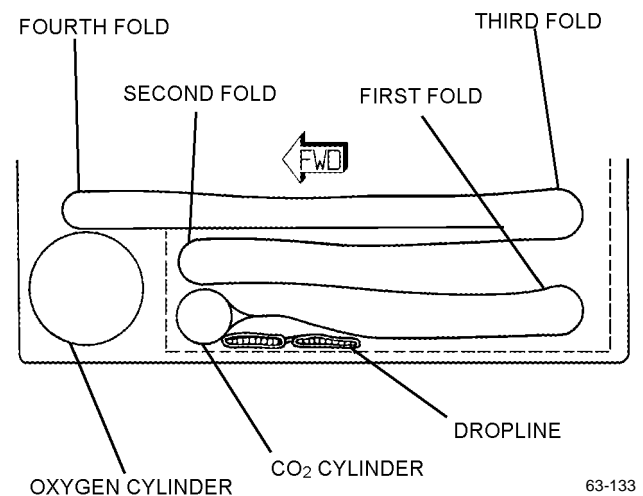
3. Position manual operating handle in front left corner.

4. Fold liferaft forward and form fold at rear of compartment.

5. Fold liferaft aft and form fold against CO₂ cylinder.

6. Fold liferaft forward and form fold at rear of compartment.

7. Fold liferaft under and aft and form fold at front of compartment, above CO₂ cylinder.



Steps 2 thru 7 - Para 9-39

NOTE

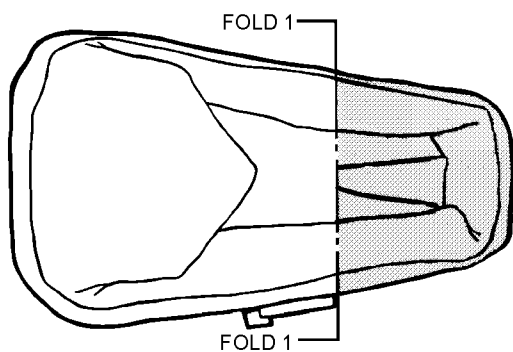
Some adjustment of liferaft may be necessary to obtain flattest possible configuration.

8. Position manual operating handle (red) on top of folded liferaft.

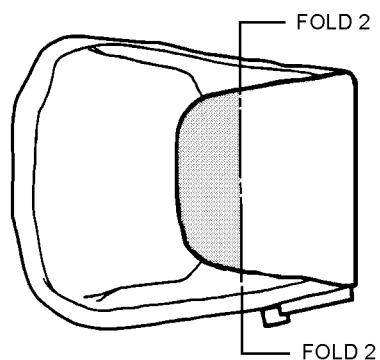
9-40. CLOSING LIFERAFT CONTAINER. Close the life raft container as detailed below:

Materials Required

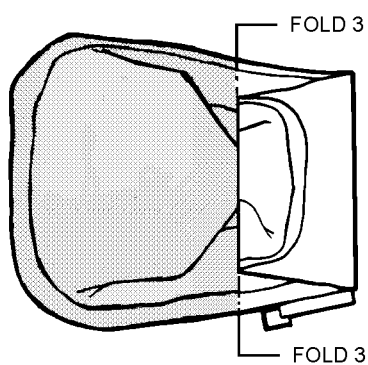
Quantity	Description	Reference Number
As Required	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146 or equivalent
As Required	Thread, Nylon, Size A, Class A	V-T-295 NIIN 01-174-9604



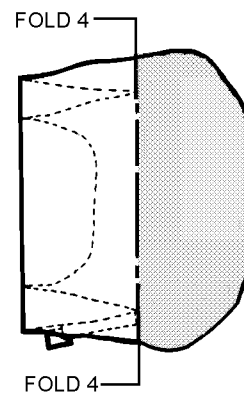
(STEP 1)



(STEP 2)



(STEP 3)



(STEP 4)



(STEP 5)

Figure 9-6. Folding the Liferaft

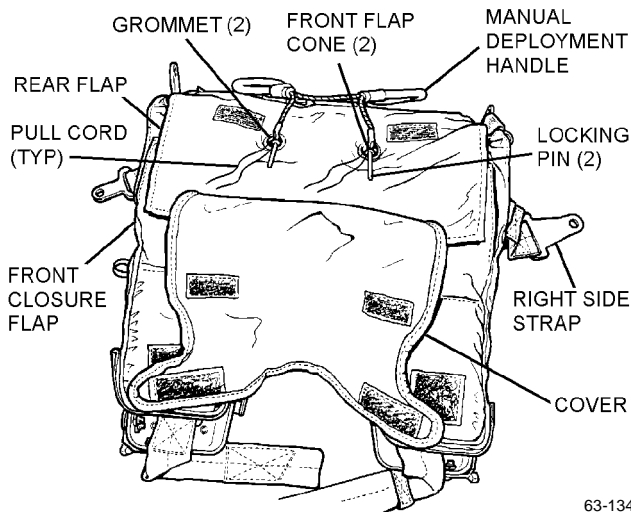
Support Equipment Required

- | Quantity | Description | Reference Number |
|----------|------------------------------------|---------------------|
| 1 | Dial Push/Pull Gage 0 to 50 Pounds | DPP-50 (CAGE 11710) |
1. Hold folded liferaft as flat as possible and position side flaps over the top of liferaft.
2. Bring front closure flap over top of liferaft.
3. Prepare pull cords using two 25-inch lengths of Type III nylon cord. Remove and discard inner strands. Route nylon cord through each cone on front closure flap. Ensure an equal length of cord extends from each side of cone eye.
4. Bring over rear flap and route nylon cord through grommets of rear flap.

NOTE

Illustrations in following steps show use of manual deployment handle pins during closing of liferaft container.

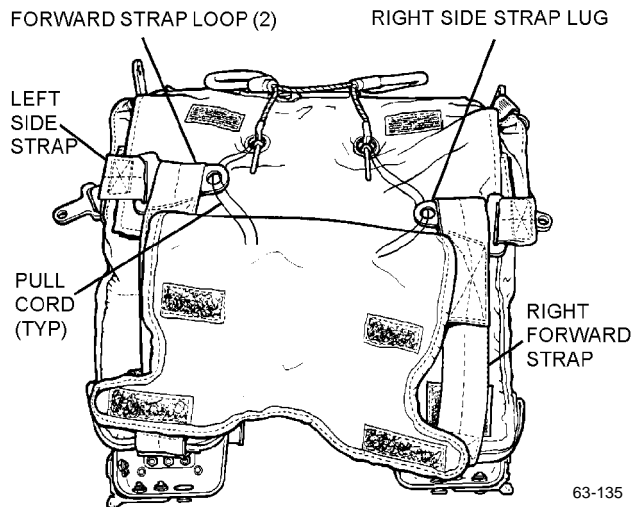
5. Pull cones through grommets of rear flap using nylon cord. Install temporary locking pins in cones or use pins on manual deployment handle assembly.



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Step 5 - Para 9-40

6. Bring up left side strap and left forward strap and pass side strap lug through forward strap loop; route pull-cord through hole in side strap lug. Repeat procedure for straps on right side.



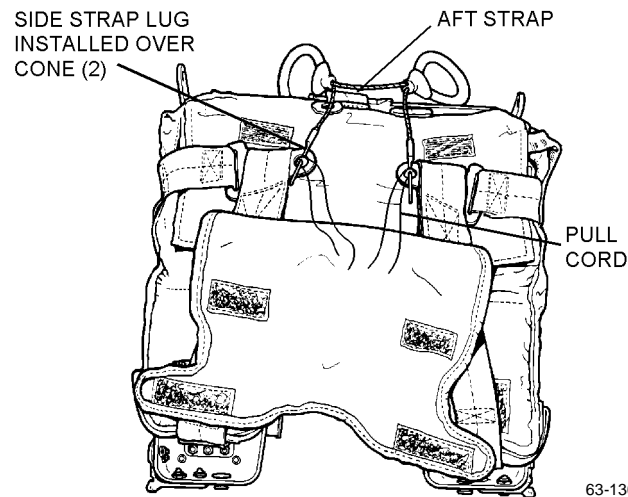
63-135

Step 6 - Para 9-40

7. Using nylon pull-cord, draw side strap lug into position snug against cone, remove locking pin from cone, pull cone through hole in lug, and reinstall locking pin.

NOTE

Use same procedure for both left and right side straps.

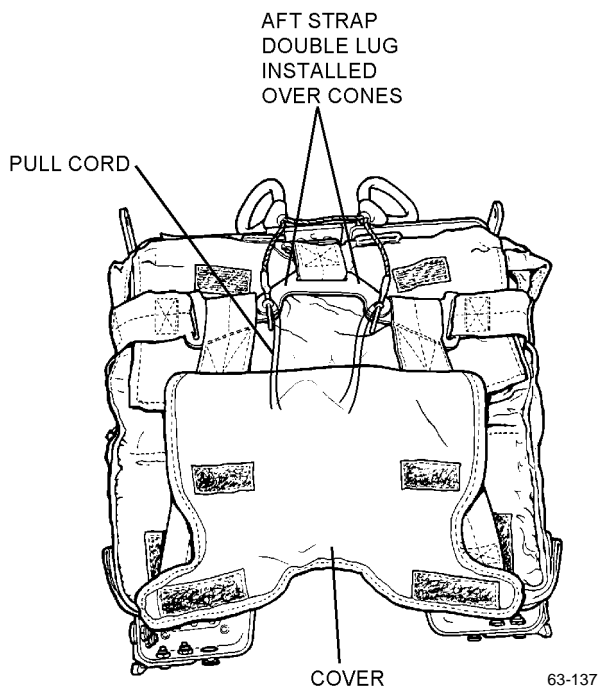


63-136

Step 7 - Para 9-40

8. Thread nylon cord through holes in rear strap double lug.

9. Using nylon cord, pull up rear strap and install double lug over cones. Remove and reinstall pins one at a time to retain double lug.

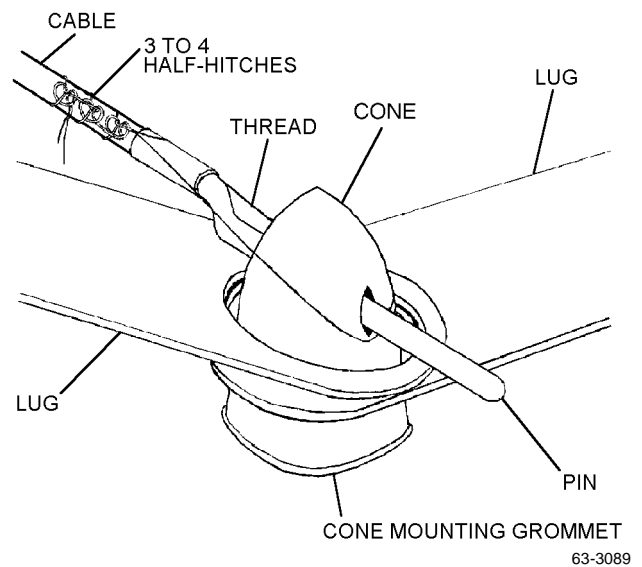


Step 9 - Para 9-40

10. If temporary locking pins were used, replace with pins of manual deployment handle. Remove nylon pull-cords from cones.

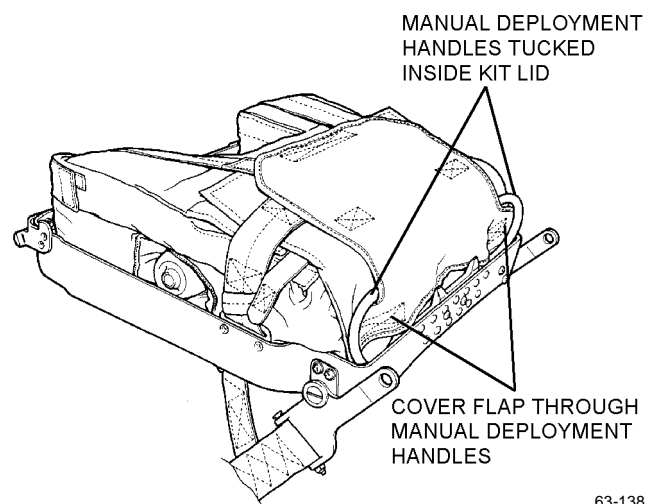
11. Using a 0-50-pound spring scale, check for movement of locking pins. Locking pins shall move when pull force, applied in either a right or left direction, is 30 pounds or less. If pull force is outside these limits, recheck packing and position of liferaft and rucksack in survival kit lid. Reinstall manual deployment handle and retest.

12. Safety tie both pins and cones by passing through white thread, size A, single, under pin, around cone then securing thread to ripcord cable with three to four half hitches.



Step 12 - Para 9-40

13. Ensure pins are correctly installed, close cover, position manual deployment handle assembly at rear of rucksack, pass corner flaps of cover through handles, and secure cover hook and pile fasteners. Ensure handles are tucked inside lid.



Step 13 - Para 9-40

Section 9-4. Turnaround/Daily/Preflight/Postflight/Transfer/ Special/Conditional Inspection

9-41. GENERAL.

9-42. TURNAROUND/DAILY/PREFLIGHT/POST-FLIGHT/TRANSFER INSPECTIONS. These are visual inspections performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. The inspections shall be performed by line personnel (plane captain) or delegated aircrewmembers who have been instructed and qualified by the Aviators' Equipment Branch.

9-43. CONDITIONAL INSPECTION. This is an unscheduled inspection required as a result of a specific situation or set of conditions; e.g., hard-landing inspections or any inspection directed by a higher authority that is not ordered in a technical directive.

9-44. SPECIAL INSPECTION. This inspection is performed on in-service survival kits installed in aircraft and in ready room issue. The inspection shall be performed at the Organizational Level of maintenance by personnel assigned to the Aviators' Equipment Branch. Completion and date of inspection shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

9-45. INSPECTION PROCEDURES. Procedures for these visual type inspections are as follows:

1. Seat cushion for torn fabric or stitching, improper alignment on seat and secure fasteners.
2. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters and lid attachment fittings.

3. Lapbelt release assemblies for loose or missing screws and corrosion.

4. Ensure lapbelt attachment fittings have limited rotation (off-aircraft check only).

5. Oxygen/communications hose assembly (including those portions of the hose assembly between the aircraft console, the seat kit lid assembly, and the aircrewman's chest mounted regulator) for secure attachment, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings. Communication lead for secure attachment.

6. Ensure oxygen gage indicates FULL.

7. Manual emergency oxygen actuation handle for security and deterioration.

8. Automatic emergency oxygen lanyard assembly, beacon actuator lanyard assembly, and lower coupling assembly for security of attachment, damage, and/or corrosion.

9. Lid assembly for cracks, breaks, or other obvious damage.

9-46. If discrepancies are found or suspected, Maintenance Control shall be notified.

9-47. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready For Issue (RFI) survival kit. Non-RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 9-5. Acceptance/Phased/SDLM/PDM Inspection

9-48. GENERAL.

9-49. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or at the time a reporting custodian accepts a newly assigned aircraft from any source, and on return of an aircraft from SDLM/PDM or other major D-level rework. The Phased/SDLM/PDM Inspection cycle of the survival kit shall be every 24 months. In no case, however, shall the phased interval exceed 728 days. The battery test inspection cycle for the AN/URT-33A Radio Beacon is dependent upon the type of the battery installed. Refer to NAVAIR 16-30URT33-1 for battery test inspection cycles and requirements. For acceptance inspection purposes, verification of pyrotechnics and configuration is accomplished by visual record examination only. Disassembly beyond the daily inspection requirements of applicable publications is not required. Activities may elect to increase the depth of inspection if equipment condition, visual external inspection, or record examination indicates such action is warranted.



Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the rucksack/survival package assembly or liferaft.

9-50. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Remove the seat cushion and rucksack and inspect for the following:

1. Seat cushion for stains, torn fabric; torn, loose, or frayed stitching and secure fasteners.
2. Lid assembly for structural damage, corrosion, damaged or deteriorated finish. All lid assembly attaching screws and connectors for disturbed tamper dots.
3. Lapbelts for frayed or torn webbing, torn stitching, damaged or corroded connectors, adjusters and attachment fittings.

4. Lapbelt release assembly for loose or missing screws and corrosion.

5. Lapbelt attachment fittings for limited rotation.

6. Oxygen/communications hose assembly (including those portions of the hose assembly between the aircraft console, the seat kit lid assembly, and the aircrewman's chest mounted regulator) for secure attachment, deterioration, corrosion, bent electrical connector pins and foreign matter in fittings. External communications lead for secure attachment.

7. Oxygen cylinder for distortion and chipped paint.

8. Emergency oxygen system for contamination, corrosion, damaged oxygen gage, crimped cable housing.

9. Rucksack assembly for stains, torn stitching, damaged fabric, damaged or worn eyelets and locking cones, slide fastener for corrosion and damage.

10. Dropline for fraying and contamination. Measure length of dropline. Length of dropline shall be 26 feet 4 inches \pm 12 inches.

11. Manual deployment handle assembly for security of cables and pins, and for cuts and breaks. If cuts, abrasions, or breaks are superficial (no deeper than 0.065 inch, not longer than 1/2 inch), handle assembly is acceptable for installation. If cuts, breaks, or abrasions in the rubber expose underlying metal, replace handle assembly. Check security of yellow deployment handles.

12. Strap assemblies for frayed or torn webbing, torn stitching, damaged or loose eyelets and corroded fittings.

13. Automatic emergency oxygen lanyard assembly, beacon actuator assembly, and lower coupling assembly for security of attachment, damage, and/or corrosion.

9-51. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of the kit. To perform a functional check, proceed as follows:

NAVAIR 13-1-6.3-2

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Cord, Nylon, Type III	MIL-C-5040 NIIN 00-240-2146
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) or 31TB1995-1 (CAGE 99251)
1	Dial Push/Pull Gage, 0-50 Pounds	DPP-50
1	Pin Punch, 3/32 inch	—



Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures or damage to seat kit may result. After repair, the entire test procedure shall be performed.

NOTE

Performance of the test stand (figure 9-7) is dependent upon the skill of the operator. Test stand operators shall be thoroughly familiar with the instruments, controls and connections of the systems incorporated in the test stand. Refer to NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 for details of operation of the 59A120 or 31TB1995 series liquid oxygen test stands.

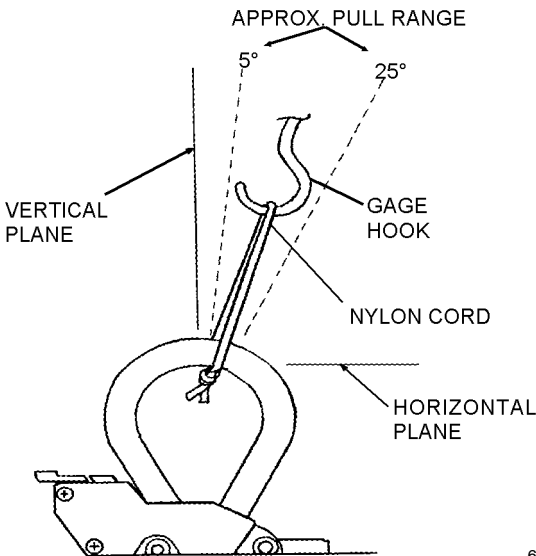
Emergency oxygen cylinder pressures used in this functional test were determined under ideal shop conditions of 70°F (21°C).

Variations in ambient air temperature directly affect charging pressures. Refer to table 9-5 for details.

Ensure that emergency oxygen cylinder is filled to 1800-2000 psi.

1. Remove bell jar and connect oxygen outlet hose of survival kit to fitting C-1 on test stand. Ensure that valve V-2 is open and all other test stand valves are closed (figure 9-7).
2. Thread approximately 10 inches of nylon cord through the manual emergency oxygen actuation handle and tie ends together.

a. Insert hook of push/pull gage in loop formed by nylon cord and pull at a 5 to 25 degree angle from the vertical plane toward rear of survival kit.

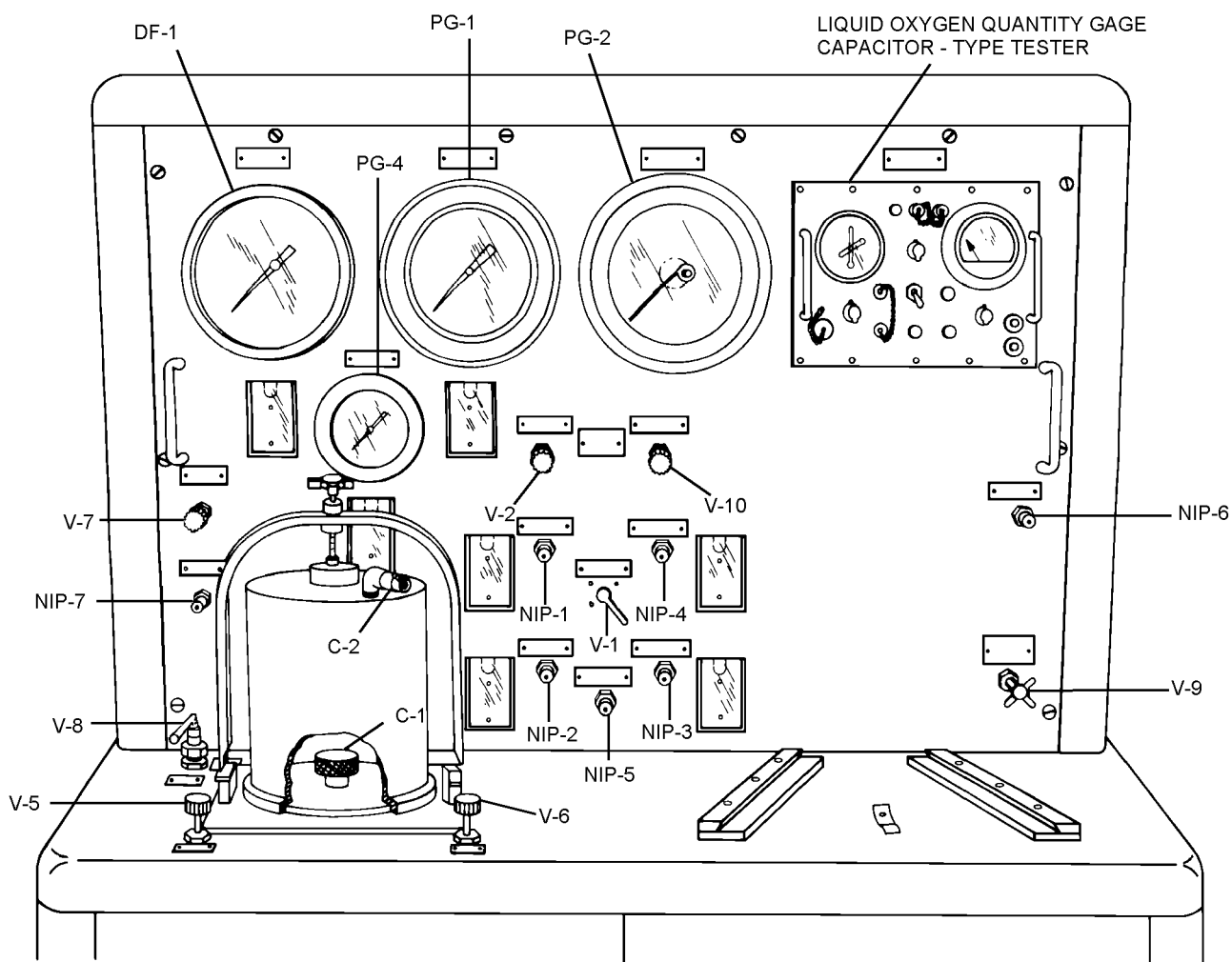


63-166

Step 2a - Para 9-51

b. Measure force required to actuate manual oxygen actuation handle. Force required shall be 15 to 30 pounds. The emergency oxygen system shall actuate and indicate 30 to 90 psi on test stand gage PG-1.

3. Remove push/pull gage and nylon cord from manual actuation handle.
4. Using the 10-inch length of cord, form a loop using a binder knot and place loop over the push button arm (thumb lever) of the emergency oxygen manual actuation handle.



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 – 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 – 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 – 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 – 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 – 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 – 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 – 160 PSIG TEST PRESSURE GAGE		

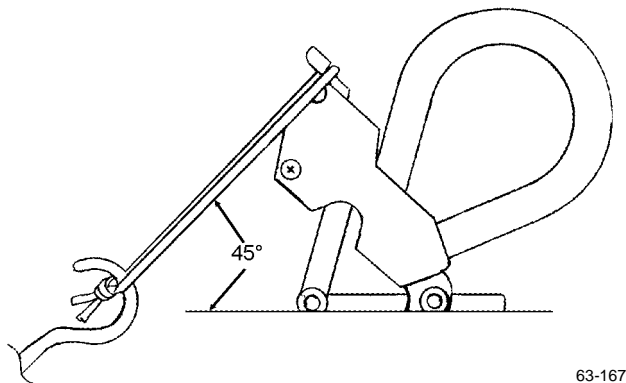
63-578

Figure 9-7. Test Stand Model 59A120

NAVAIR 13-1-6.3-2

a. Position lid assembly on table with manual emergency oxygen actuation handle along the edge of the table.

b. Insert hook of push/pull gage in nylon cord loop placed over thumb lever of manual actuation handle and pull down and forward at about 45° angle.



Step 4b - Para 9-51

c. Measure force required to reset manual oxygen handle using ON-OFF mechanism. Force required shall be 15 to 30 pounds.

d. Remove gage and nylon cord loop.

5. Turn on test stand oxygen supply cylinder.

6. Slowly open valve V-6 on test stand and adjust pressure on gage PG-1 to 90 psi.

7. Actuate manual emergency oxygen actuation handle.

NOTE

Any degree of leakage in the oxygen system requires corrective maintenance.

8. Use leak detection compound to check all pressure lines and fittings on survival kit to ensure no leakage.

9. Reset manual oxygen actuation handle.

CAUTION

Do not increase pressure above 150 psi when unseating relief valve.

NOTE

Unseating can be determined by listening and observing pressure test gage PG-1 on test stand.

10. Using valve V-6, increase pressure until relief valve unseats.

NOTE

Pressure may be reduced below opening (unseating) pressure of the relief valve by closing valve V-6 and opening valve V-5.

11. Repeat step 10 several times to establish a correct pressure.

12. Relief valve shall unseat at 120 to 140 psi when pressure is increased and reseal at 110 psi minimum when pressure is decreased. Once relief valve is resealed, observe test pressure gage PG-1 to ensure that there is no indication of leakage (pressure drop).

13. Use leak detection compound to check relief valve for leaks. No leakage is allowed.

14. Close valve V-6 and bleed oxygen pressure from system by opening valve V-5. All pressure is bled when gage PG-1 indicates zero psi.

15. Close valve V-5.

16. Make sure valve V-2 is opened and all other test stand valves are closed.

17. If connected, disconnect beacon actuating lanyard from cable to lanyard assembly.

18. Attach push/pull gage to cable of automatic oxygen actuating lanyard assembly.

19. Position lid assembly so pull force can be applied to the automatic oxygen actuating lanyard in a downward direction to simulate ejection seat egress movement.

20. Measure force required to disengage automatic oxygen actuating lanyard assembly. Force required

shall be 20 to 40 pounds, the emergency oxygen system shall actuate, and pressure test gage PG-1 shall indicate 30 to 90 psi.

21. Reset automatic actuation mechanism as follows:

a. Insert a 3/32-inch pin punch into the slot in cover of automatic emergency oxygen actuation mechanism and push slide forward (toward front of seat kit). Remove pin punch.

b. Insert ball end of emergency actuating lanyard into hole in front of release mechanism and push slide back.

c. Remove cap and reset cam mechanism through hole in lid by inserting screwdriver and pushing down to reset.

d. Reinstall cap

e. Visually check to insure swagged ball is seated properly in the automatic release slide while applying a slight pull on the cable-to-lanyard assembly to assure positive engagement.

22. Open valve V-5. Ensure that all other test stand valves are closed.

23. Actuate manual oxygen actuation handle assembly to ensure positive flow through valve V-5. Reset manual oxygen actuation handle.

24. Open valve V-8.

25. Slowly close valve V-5 while observing gage DF-1.

NOTE

Observe gage DF-1 for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires corrective maintenance.

26. Close valve V-8, open valve V-5, and disconnect oxygen outlet hose from fitting C-1.

27. Ensure all valves on test stand are secured.

28. Connect oxygen outlet hose to fitting NIP-6. Ensure that valve V-10 is open and all other test stand valves are closed.

29. Connect test stand hose to fittings NIP-5 and NIP-4.

30. Turn valve V-1 to NIP-4 position.

31. Ensure kit oxygen cylinder contains 1800 to 2000 psi oxygen pressure.

32. Pull manual oxygen actuation handle. Oxygen pressure on gage PG-1 shall indicate 30 to 90 psi.

33. Slowly open valve V-9 to indicate 90 LPM on flowmeter gage PG-2. Oxygen pressure shall indicate 30 to 90 psi on gage PG-1.

NOTE

When needle of kit cylinder pressure gage is between letters E and F of REFILL, pressure in cylinder is approximately 250 psi.

34. Observe kit emergency oxygen pressure gage and allow system pressure to decrease to 250 psi while maintaining 90 LPM and 30 to 90 psi.

35. Close valve V-9.

36. With zero pressure indicated on gage PG-2, pressure indicated on gage PG-1 shall be 30 to 90 psi.

37. Reset manual oxygen actuation handle to OFF position.

38. Bleed oxygen pressure from system by opening valves V-5 and V-2. All pressure is depleted when gages PG-1 and PG-4 indicate zero (0) psi.

39. Disconnect kit from test stand.

40. Secure test stand.

41. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

42. Recharge emergency oxygen cylinder to 1800 to 2000 psi oxygen pressure in accordance with [paragraph 9-52](#).

43. Perform electrical check of oxygen and communications hose assembly in accordance with NAV-AIR 13-1-6.3-1. Check all elements of the hose as-

sembly between the aircraft console, ejection seat survival kit assembly, and the aircrewman’s chest mounted oxygen regulator.

9-52. PURGING AND CHARGING. Purge and charge the emergency oxygen cylinder as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nitrogen, Type I, Class 1, Grade B	BB-N-411
As Required	Aviators Breathing Oxygen, Type I	MIL-O-27210
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Adapter Set, Filler Valve or	T186C100-1 (CAGE 30941)
1	Adapter, Filling	21000-T130-1 (CAGE 53655)
1	Oxygen Purging Electric Heater or equivalent	C5378 (CAGE 96787)
1	Pressure Regulator	MIL-R-9198A

WARNING

Maintenance of emergency oxygen system shall be performed only after removal of survival kit from aircraft.

1. If survival kit has not been removed from the aircraft, remove kit from the aircraft in accordance with applicable maintenance manual prior to performing any maintenance on kit’s emergency oxygen system.

2. Remove cushion assembly from survival kit assembly.

WARNING

If necessary to release pressure in oxygen bottle before purging or filling, pull emergency oxygen lanyard. This releases pressure through reducer/manifold. Do not release pressure through filler valve or adapter. Releasing high pressure oxygen through restriction of filler valve causes heat, possibly resulting in fire or explosion.

NOTE

Use of filling adapter on SKU-11/A survival kit is optional.

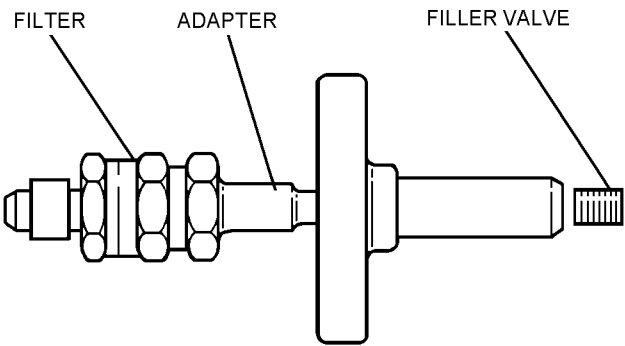
3. Remove plug and filler valve cap assembly and connect filling adapter to filler valve (figure 9-8).

NOTE

If the emergency oxygen system is contaminated or the cylinder has remained empty for more that 2 hours, purging is required. If the system or cylinder does not require purging, proceed to step 11 for charging sequence.

4. Deplete emergency oxygen cylinder if necessary.

5. Connect nitrogen source to filling adapter and close pressure reducer.



(P/N T186C100-1 SHOWN)

Figure 9-8. Filling Adapter

NOTE

If relief valve on Oxygen Purging Electric Heater will not allow 100 psi, raise pressure only to allowable limit.

6. Slowly pressurize to 100 psi with nitrogen at a temperature of 110-130°C (230-266°F) using electric heater.

7. Turn off nitrogen source and deplete oxygen cylinder.

8. Repeat steps 6 and 7 twice.

9. With pressure reducer open, turn on nitrogen source and purge for 10 minutes at a temperature of 110-130°C (230-266°F).

10. Turn off nitrogen source and disconnect.

11. Connect oxygen source to filling adapter with suitable pressure regulator and shut-off valve. Reset ON/OFF or lanyard activation mechanism as appropriate.

WARNING

Observe filling stages, as rapid application of oxygen pressure creates heat which may result in fire or explosion.

Allow no less than 3 minutes for each filling stage and 2 minute intervals for cooling between stages.

12. Slowly pressurize to 100 psi.

13. Deplete cylinder to 50 psi.

NOTE

If kit is to be stored, the emergency oxygen bottle shall be depleted or filled to 200 PSI (when needle on gage bisects E of

REFILL). For shipping, fill or deplete to 25 PSI using the gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with table 9-4 until pressure gage indicates correct pressure for existing ambient temperature (table 9-5).

Table 9-4. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

Table 9-5. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

15. Loosen oxygen filler adapter until all pressure is bled from high-pressure line. Remove filling adapter.

WARNING

Compound which is not clear and free from suspended material/sediment is considered contaminated and shall be disposed of. Also compound exhibiting peculiar odors, such as acetone or alcohol, is considered contaminated and shall be disposed of.

NOTE

Alternate Fill Valve P/N 9120097-27 is coreless and has a maximum leakage rate of 1 cc/hr. This will be evident by very tiny bubbles passing through the top of the valve when leak detection compound is applied level to top rim. No leaks around threads are acceptable. If large bubbles are

evident, contact survival kit FST for disposition.

16. Examine leak detection compound then apply around connection points of oxygen gage, reducer, and filler valve. Check for leaks. Then thoroughly wipe clean and dry with lint-free cloth, filtered low-pressure compressed air, or low pressure oxygen.

17. Reinstall oxygen filler valve cap on filler valve. Filler valve cap should be hand tight only.

18. Reinstall plug and filler valve cap assembly.

19. Reinstall cushion assembly on survival kit.

20. If survival kit assembly was removed from aircraft in [step 1](#), reinstall survival kit in accordance with applicable maintenance manual.

Section 9-6. Maintenance

9-53. GENERAL.

WARNING

Keep working area clean and free from oil, grease and dirt. Do not attempt to perform any component removal with the oxygen system pressurized.

Ensure that maintenance on survival kit assembly is performed in a properly designated work area. Extreme care should be taken to prevent the survival kit from being damaged. Do not expose to any oily substances. Do not drop or slide on abrasive surfaces or into sharp objects which may puncture, tear, or otherwise damage the survival package assembly or liferaft.

9-54. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment. Disassemble only to extent required to perform task. Work shall be performed in a clean, dust- and grease-free area.

9-55. TROUBLESHOOTING.

9-56. When malfunctions or other operating problems are encountered, locate probable cause and remedy using [table 9-6](#).

9-57. DISASSEMBLY.

9-58. UNPACKING SURVIVAL KIT. Refer to [figure 9-9](#) and unpack survival kit as follows:

1. Remove oxygen/communications lead assembly. Install dust covers on lead assembly and kit connectors.

1A. Disconnect beacon radio lanyard from radio (not pictured).

2. Place kit upside down on table, rear of kit toward packer.

3. Separate hook and pile fasteners (1) and lift cover flap (2) enclosing manual deployment (yellow) handles (8).

4. Carefully withdraw closure pins (6) from cones (7) of front closure flap (3) and remove manual deployment handles (8).

Table 9-6. Troubleshooting

Trouble	Probable Cause	Remedy
Low or zero indication.	System empty.	Charge system (paragraph 9-52).
	Defective gage.	Replace gage.
	Leaking components.	Tighten connections or replace.
Oxygen system output pressure not within 30 to 90 psig limits.	Defective pressure reducer.	Replace reducer.
	Pressure reducer out of adjustment.	Adjust reducer (paragraph 9-97).
Relief valve leaking.	Dirty or defective relief valve.	Replace relief valve.
	Defective quadring.	Replace relief valve.
Relief valve does not unseat within tolerance of 120 to 140 psi when simulated pressure is applied during test.	Defective relief valve.	Replace relief valve.
No oxygen flow at kit-to-man hose from aircraft system (emergency oxygen system not actuated).	Defective outlet manifold.	Replace outlet manifold.
No oxygen output pressure with pressure reducer actuated.	Defective oxygen gage.	Replace gage and charge cylinder.
	Foreign matter in output flow path.	Bleed system, disassemble, clean, purge and recharge (paragraph 9-52).
	Weak or broken spring in pressure reducer.	Replace reducer (paragraph 9-88).
	Pressure reducer out of adjustment.	Adjust (paragraph 9-97).
Pulsating pressure at outlet port.	Pressure reducer out of adjustment.	Adjust (paragraph 9-97).
Oxygen system leaking; low pressure side of reducer.	Loose Fittings.	Tighten as required.
Oxygen system leaking; high pressure side of reducer.	Defective O-ring or backup ring.	Replace reducer.
Pressure reducer will not shut off.	Defective pressure reducer.	Replace reducer.
Manual emergency oxygen does not actuate (Pull up) or reset (Push down) within a tolerance of 15 to 30 pounds.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
No oxygen flow at kit-to-man hose when emergency oxygen system is actuated by automatic lanyard.	Automatic actuation cable pulls free of release assembly before reducer is actuated.	Adjust emergency oxygen automatic actuation assembly (paragraph 9-98).

Table 9-6. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Unable to obtain proper adjustment of lapbelt assembly.	Faulty lapbelt adjuster.	Inspect/replace lapbelt adjuster (paragraph 9-77).
	Improper routing of webbing.	Disassemble lapbelt assembly (paragraph 9-77) and reassemble correctly.
	Dirt/grease on slides.	Disassemble lapbelt assembly (paragraph 9-77) and clean slides using clean, dry cloth. Reassemble lapbelt adjuster.
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors.	Perform electrical check (NAVAIR 13-1-6.3-1). Replace oxygen/communication hose assembly as required.
	Open or short circuit in oxygen hose wiring.	
Pull force to deploy kit is not within a tolerance of 20 \pm 10 lbs.	Survival kit not properly packed.	Repack survival kit.
	Heavily burred release pin.	Replace manual deployment handle assembly.

5. Remove side strap lugs (LH/RH) (5) from front closure flap cones and front strap loops.

6. Remove aft strap double lug (9) from cones (7) and open rear, front and side closure flaps to expose liferaft.



Use caution when removing liferaft from kit to ensure that inflation valve is not inadvertently actuated causing inflation of liferaft.

7. Carefully remove liferaft from rucksack.

8. Remove thread safety tie and disconnect valve actuating line from actuating valve pull cable loop.

9. Remove 6-cord safety tie and disconnect drop-line from CO₂ cylinder neck.

10. Release hook and pile fastener on survival items stowage pockets, fold flap downward and open zip fastener.

11. Remove survival items from stowage and disconnect retaining line from loop in center of rucksack.

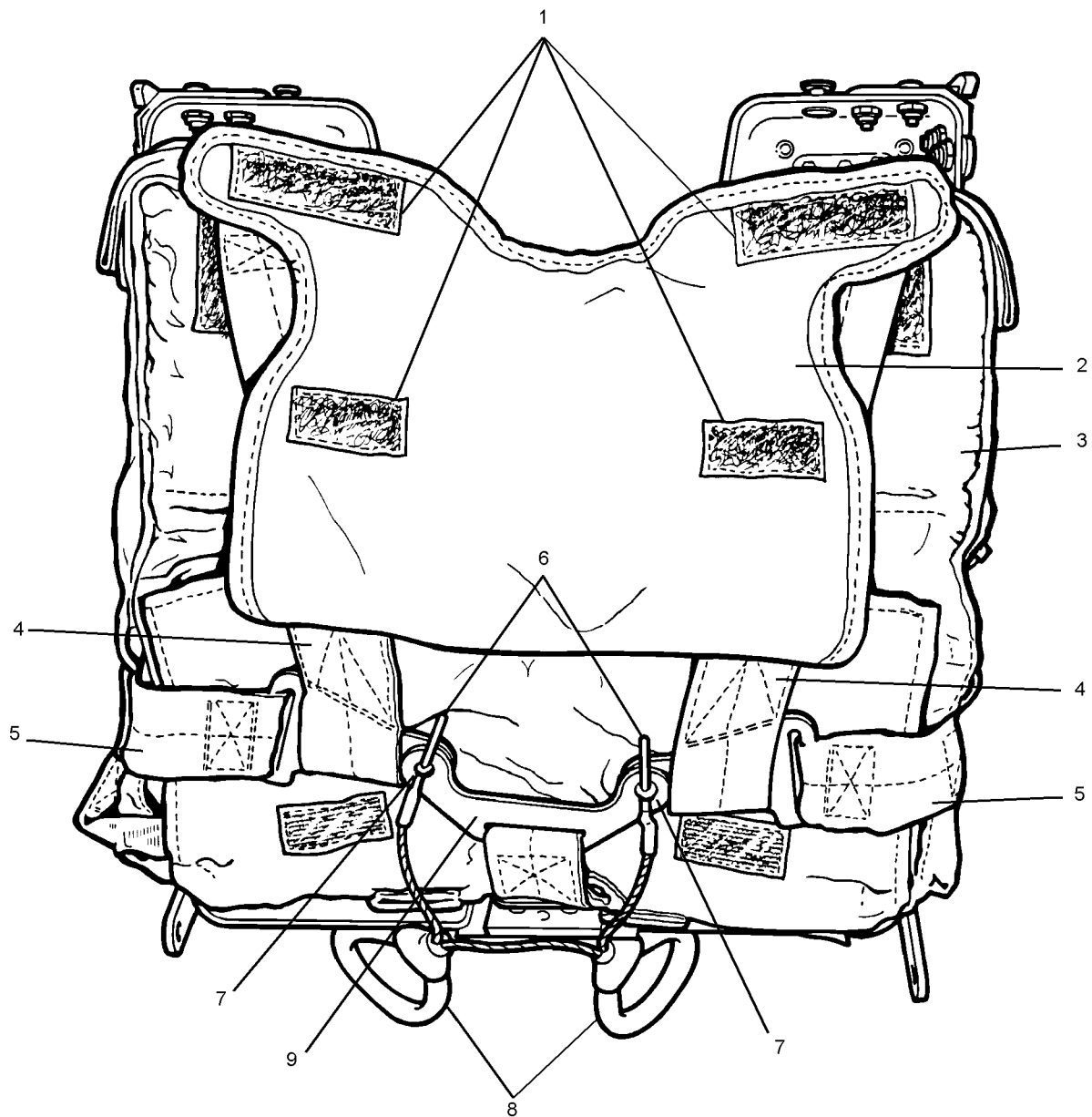
12. Remove rucksack from kit lid assembly.

9-59. SURVIVAL KIT DISASSEMBLY. Disassemble survival kit in the order indicated, using index numbers in [figure 9-9](#) as reference.

NOTE

Discard all O-rings, cotter pins, seals, and teflon tape from oxygen connections during disassembly.

9-60. Determine area of malfunction using [table 9-6](#) and disassemble only to the extent required to adjust or replace malfunctioning component.



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Figure 9-9. SKU-11/A Seat Survival Kit Components (Sheet 1 of 4)

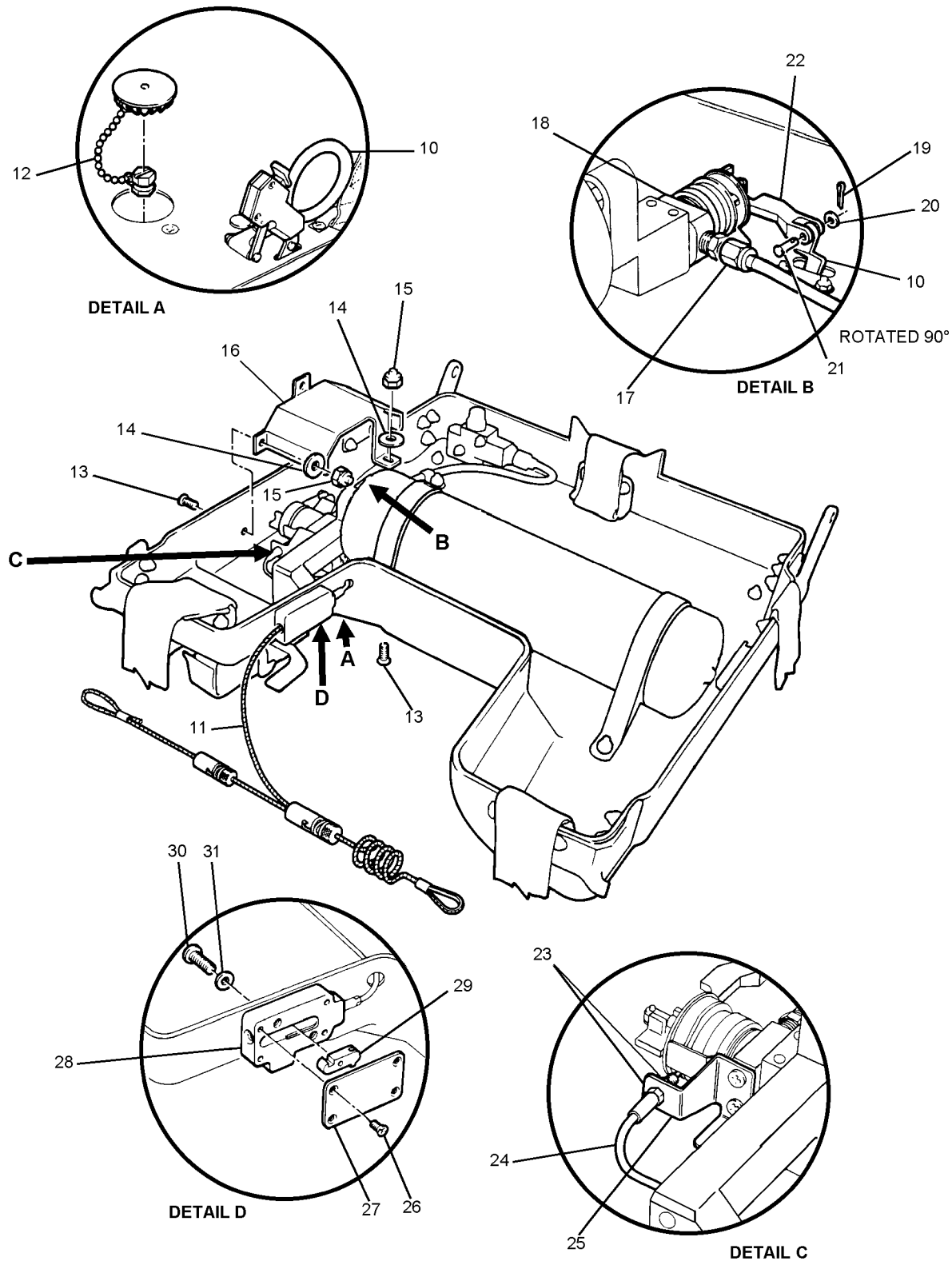


Figure 9-9. SKU-11/A Seat Survival Kit Components (Sheet 2 of 4)

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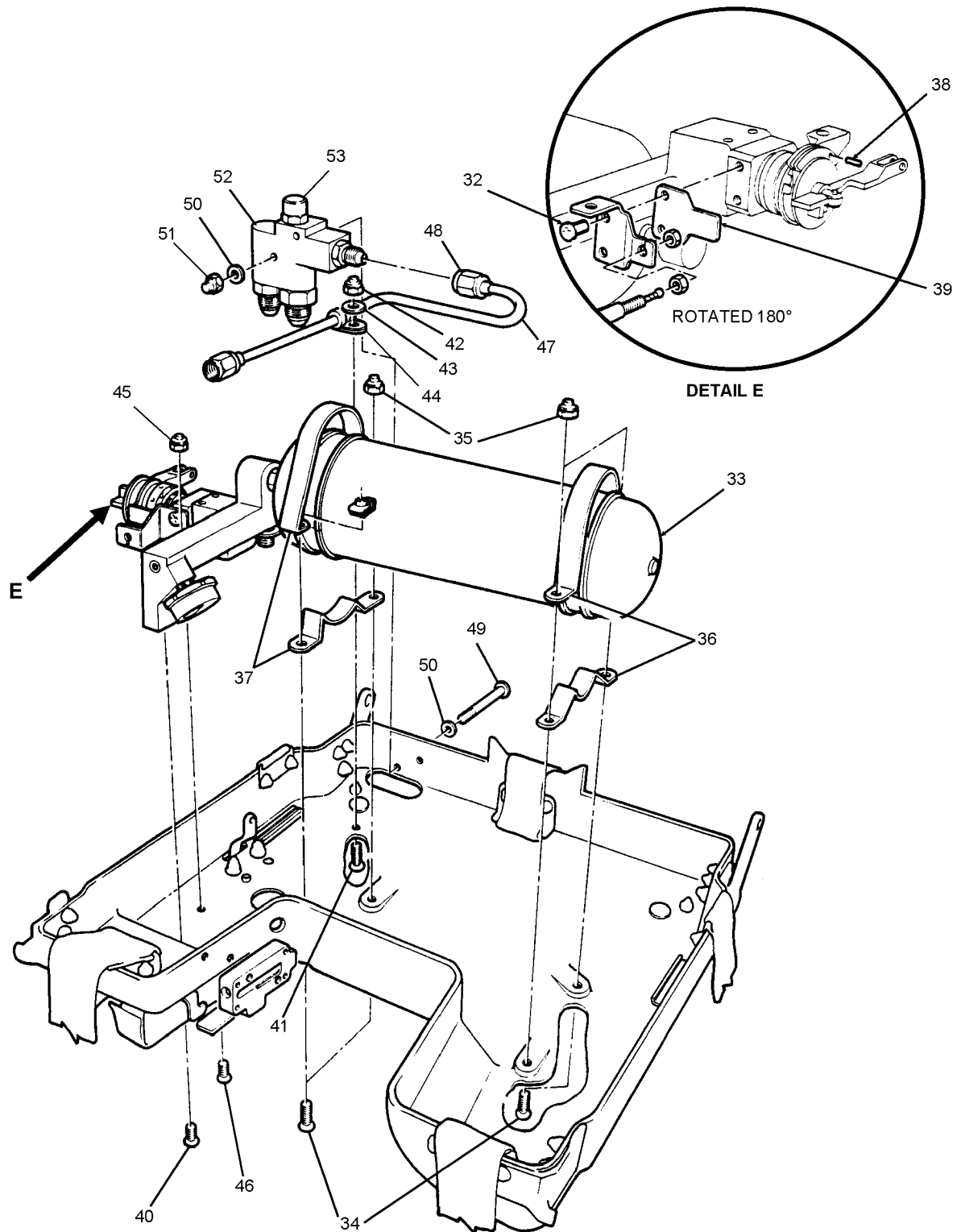


Figure 9-9. SKU-11/A Seat Survival Kit Components (Sheet 3 of 4)

63-171

- | | |
|---|---|
| 1. HOOK AND PILE FASTENER | 27. COVER, AUTOMATIC RELEASE ASSEMBLY |
| 2. COVER FLAP | 28. HOUSING, AUTOMATIC RELEASE ASSEMBLY |
| 3. FRONT CLOSURE FLAP | 29. SLIDE, AUTOMATIC RELEASE ASSEMBLY |
| 4. FORWARD STRAP ASSEMBLY | 30. SCREW |
| 5. SIDE STRAP ASSEMBLY | 31. WASHER |
| 6. CLOSURE PINS | 32. SCREW |
| 7. CONES, FRONT CLOSURE FLAP | 33. EMERGENCY OXYGEN CYLINDER ASSEMBLY |
| 8. MANUAL DEPLOYMENT HANDLES | 34. SCREW |
| 9. AFT STRAP DOUBLE LUG ASSEMBLY | 35. CAPNUT |
| 10. EMERGENCY OXYGEN MANUAL ACTUATION
HANDLE | 36. CYLINDER CLAMP ASSEMBLY |
| 11. AUTOMATIC ACTUATING LANYARD | 37. CYLINDER CLAMP ASSEMBLY |
| 12. PLUG AND CAP ASSEMBLY | 38. SPRING PIN |
| 13. SCREW | 39. CANTILEVER SPRING |
| 14. WASHER | 40. SCREW |
| 15. CAP NUT | 41. SCREW |
| 16. COVER | 42. CAPNUT |
| 17. NUT, LOW PRESSURE TUBE UNION | 43. WASHER |
| 18. PRESSURE REDUCER ASSEMBLY | 44. CLAMP |
| 19. COTTER PIN | 45. CAPNUT |
| 20. WASHER | 46. SCREW |
| 21. PIN, STRAIGHT (THREADED) | 47. LOW PRESSURE TUBE ASSEMBLY |
| 22. SEAR | 48. NUT, LOW PRESSURE TUBE UNION |
| 23. NUT, SPECIAL RETAINER | 49. BOLT |
| 24. CONDUIT, AUTOMATIC ACTUATION | 50. WASHER |
| 25. CONDUIT BRACKET | 51. CAPNUT |
| 26. SCREW | 52. LOW PRESSURE MANIFOLD |
| | 53. RELIEF VALVE |

INDEX LEGEND

Figure 9-9. SKU-11/A Seat Survival Kit Components (Sheet 4 of 4)

WARNING

Do not use oil or any material containing oil in conjunction with oxygen equipment. Oil, even in minute quantities, coming in contact with oxygen can cause explosion or fire. Dust, lint and fine metal particles are also dangerous.

9-61. LID ASSEMBLY. Refer to [figure 9-9](#) and disassemble lid assembly as follows:

Support Equipment Required

Quantity	Description	Reference Number
1	Drive Pin Punch, 1/16 inch	—

1. Actuate emergency oxygen actuation handle (10) to discharge the cylinder as required.

NOTE

If the cylinder is completely discharged, it may require purging prior to charging. Refer to [paragraph 9-52](#).

2. Pull and remove automatic actuating lanyard assembly (11).

3. Remove filler valve plug and cap assembly (12).

4. Remove four attaching screws (13), washers (14) and cap nuts (15) and remove pressure reducer assembly cover (16) from lid assembly.

5. Disconnect low pressure tube union nut (17) from pressure reducer (18).

6. Remove cotter pin (19), washer (20) and threaded pin (21) connecting pressure reducer sear (22) to emergency oxygen actuation handle assembly (10).

7. Loosen, but do not remove, retention nuts (23) securing automatic actuation conduit assembly (24) to conduit bracket (25).

8. Remove four attaching screws (26) from automatic release housing cover (27) and remove cover and slide (29) from housing (28).

9. Remove two attaching screws (30) and washers (31) which secure automatic release housing (28) to lid assembly.

CAUTION

On completion of the following step, the emergency oxygen system will no longer be fastened to the lid assembly. Any undue movement of the oxygen system may damage the automatic actuation conduit.

10. Remove conduit bracket screws (32), manifold screw (40), and four cylinder clamp screws (34) and cap nuts (35) from clamps (36) and (37).

11. Remove conduit bracket screw (46) and cap nut (45).

12. Carefully move oxygen cylinder assembly (33) so automatic release housing (28) can be removed from conduit (24) and lid assembly.

CAUTION

The pressure reducer assembly (18) shall not be disassembled. A malfunctioning reducer shall be replaced if malfunction cannot be corrected by adjustment.

13. Remove oxygen cylinder assembly (33) from the lid assembly.

14. Using a 1/16-inch pin punch, remove spring pin (38) retaining automatic actuation cable in reducer automatic actuation cam.

15. Remove automatic actuation conduit special retaining nuts (23).

16. Remove automatic actuation conduit assembly (24).

17. Remove conduit bracket (25) and cantilever spring (39).

18. Remove screw (41), washer (43) and cap nut (42) from clamp (44) securing low pressure tube assembly (47) to lid assembly.

NAVAIR 13-1-6.3-2

19. Disconnect low pressure tube assembly union nut (48) and remove tube assembly (47).

20. Remove two attaching bolts (49), washers (50) and cap nuts (51) and remove low pressure manifold (52) from lid assembly.

9-62. CLEANING.

9-63. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.

9-64. SEAT CUSHIONS AND FABRIC COMPONENTS. Clean seat cushions and all fabric components as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16791 NIIN 00-282-9699
As Required	Lint-free Cloth, Type II	MIL-C-85043 NIIN 00-044-9281

NOTE

If using cleaning compound (MIL-C-25769) combine one part compound with three parts water. If using general purpose detergent, follow the instructions on the container.

1. Prepare detergent or cleaning compound (MIL-C-25769) solution.

2. Apply solution to soiled area with spray or sponge.

3. Allow solution to remain on surface for a few minutes, then scrub with soft brush or cloth.

4. Rinse surface thoroughly with water; wipe with cloth or sponge.

5. Repeat steps 1 thru 4 until material is clean.

6. Repeat step 4 until material is free of all solution.

7. Allow material to dry thoroughly.

NOTE

If survival kit seat cushion cover can not be thoroughly cleaned using above instructions, replacement of cushion top cover panel is authorized on a one-time only basis for each seat cushion assembly. Refer to paragraph 9-75 for replacement instructions.

9-65. INSPECTION.

9-66. SURVIVAL ITEMS. Inspect in accordance with NAVAIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

9-67. DISASSEMBLED PARTS. Inspect disassembled parts as detailed in table 9-7.

9-68. REPAIR AND REPLACEMENT.

9-69. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs shall be documented by making the necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

9-70. All individual components that fail to pass inspection shall be replaced except where repair procedure is indicated. Refer to source code listing (SM&R code) in the Numerical Index of the Illustrated Parts Breakdown to aid in determining replaceable components. All adjustable components and other assemblies that fail to pass respective tests and cannot be adjusted to meet required specifications shall be replaced.

Table 9-7. Inspection

Component	Task
Cushion Assembly (Figure 9-16)	Inspect fabric for wear, tears, stains, frayed edges and loose or broken stitches.
	Inspect for deteriorated padding.
	Inspect for security of snap fasteners on front and rear of cushion.
	Check for wear or breakdown of cushion foam and replace as required.
Rucksack Assembly (Figure 9-16)	Inspect slide fastener for security of attachment and smooth operation.
	Inspect fabric for wear, tears, stains, frayed edges and loose or broken stitching.
	Ensure that hook and pile fasteners are firmly attached to rucksack assembly flaps.
	Check for presence and secure attachment of cones and eyelets.
	Inspect dropline assembly for wear, tears, stains, fraying, loose or broken stitches.
	Measure overall length of dropline. Overall length shall be 26 ft. 4 in. \pm 12 in.
	Inspect retaining lanyard for wear, tears, stains, fraying, loose or broken stitching.
AN/URT-33A Radio Beacon	Inspect in accordance with NAVAIR 16-30URT33-1.
Manual Deployment Handle Assembly (Figure 9-16)	Inspect handles for cuts and breaks.
	Inspect release pins for excessive burrs and secure attachment.
	Inspect cable for wear, fraying, loose or broken strands and secure swagings.
Harness Assembly (Figure 9-19)	Inspect webbing for stains, wear, tears, fraying and loose or broken stitches.
	Inspect harness adjusters and covers for cracks around attachment screws.
	Inspect harness adjusters for damage and wear, corrosion, scratches penetrating finish, loose attachment and weak release springs.
	Inspect adjuster release tabs for stains, wear and loose or broken stitches.
	Inspect release fittings for damage, wear, corrosion, loose attachment, weak springs and correct operation.
	Inspect rear fittings and other metal hardware for proper attachment.
Strap Assemblies (Figure 9-19) (Note 1)	Inspect strap assemblies for stain, wear, tears, fraying and loose or broken stitches.

Table 9-7. Inspection (Cont)

Component	Task
Strap Assemblies (Figure 9-19) (Note 1) (cont)	Inspect strap fittings for wear, corrosion and scratches penetrating finish.
Radio Beacon Bracket (Figure 9-19)	Inspect for damage, worn, torn, frayed or loose hook and pile fastener and scratches penetrating finish.
Beacon Actuator Lanyard Assembly (Figure 9-16)	Inspect beacon lanyard for damage and security of swaged ends.
Cable-to-Lanyard Assembly and Lower Cable Assembly (Figure 9-16)	Inspect cable for fraying, broken strands and security of swaged balls.
	Inspect cable sleeve for wear, breaks and distortion.
Conduit Assembly (Figure 9-17)	Inspect cable for wear, fraying, and security of swaged balls.
	Inspect for dents.
	Inspect adjuster threads for damage.
	Ensure cable moves freely in conduit.
Oxygen Actuation Assembly (Figure 9-19)	Operate handle and ensure freedom of movement.
Housing, Automatic Release Assembly (Figure 9-17)	Inspect for damage around contour end of threads.
Lid Assembly (Figure 9-16)	Inspect for damage; dents, gouges and scratches penetrating finish.
Miscellaneous Hardware and Attaching Parts	Inspect threaded parts for damaged or stripped threads.
	Inspect nuts for rounded hexagon flats.
	Inspect washers and spacers for damage and elongated holes.
	Inspect self-locking bolts for damaged or worn locking devices (nylon pellets).
Low Pressure Manifold Assembly (Figure 9-17)	Inspect body ports and threads for damage.
	Inspect connectors for damaged threads and rounded hexagon flats.
	Inspect relief valve for damaged threads and rounded hexagon flats.
Emergency Oxygen Assembly (Figure 9-17)	Inspect cylinder for cracks, nicks, gouges, deep scratches, bulges or dents.
	Inspect filler valve for presence of valve cap, damaged threads and leakage around valve core.
	Inspect high pressure manifold ports and threads for damage.
	Inspect oxygen gage for cracked or missing glass, bent needle, legible dial, security, damaged threads and rounded corners on hexagon flats.
	Ensure integral filter present and secure in threaded shaft.

Table 9-7. Inspection (Cont)

Component	Task
Pressure Reducer Assembly (Figure 9-18)	Inspect automatic actuation cam and sear cam for galling of contact surfaces (figure 9-12).
	Inspect reducer body for damage and threads on outlet fitting for damage.
	Inspect adjusting cap and lock ring (figure 9-12) for damaged adjusting holes and tamper dots for presence and integrity (figure 9-11).
Notes: 1. There are five strap assemblies, two side, two forward, and one aft.	

9-71. SEAT CUSHION ASSEMBLY - REPAIR AND REPLACEMENT. Repair/replace the seat cushion as follows:

9-72. Removal.

1. Disconnect front snap fasteners by lifting at top edge and pulling away (Pull-the-Dot type snap fastener).

2. Disconnect aft snap fasteners by lifting at aft edge and pulling away (Pull-the-Dot type snap fastener).

3. Pull radio beacon antenna from fabric channel on underside of cushion and remove cushion from aircraft.

4. Inspect replacement cushion for damage, fraying and security of snap fasteners.

9-73. Repair. General repair of cushion assembly is limited to sewing loose or open seams, broken stitches and small rips and tears. Replacement of top cover panel of seat cushion is authorized one time only for each seat cushion assembly in accordance with [paragraph 9-75](#).

9-74. Installation.

1. Insert radio beacon antenna into fabric channel on underside of cushion.

2. Make sure antenna does not become dislodged from beacon and position cushion on lid assembly.

3. Engage front edge of aft snap fasteners and press down to engage. Lift gently to check proper connection.

4. Engage lower edge of front snap fasteners and press down to engage. Lift gently to check proper connection.

9-75. REPLACEMENT OF SEAT CUSHION COVER TOP PANEL. Replacement of seat cushion is authorized one time only for each seat cushion assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cloth, Type II, Class 1, Color USAF 1590 Sage Green	MIL-C-83429 NIIN 00-147-2064

1. Remove foam cushion from cushion cover assembly.

2. Turn cover inside out.



Take care not to damage gusset portion of seat cushion cover. If gusset is ripped, torn, or worn, a new cushion assembly must be procured.

3. Remove top panel portion of cover assembly by removing stitching. Retain gusset and bottom portion

of cushion cover assembly, which should remain attached to each other.

4. Spread required amount of MIL-C-83429 cloth on flat surface. Using top panel of cover assembly as a template, trace around template 3/8 ± 1/8 inch from its edge to form pattern for new top panel.

5. Cut out new cushion cover top panel.

NOTE

Stitching used shall be ASTM-D-6193, Type 301 Lockstitch, with minimum backstitching of 1/2 inch, using 6 to 8 stitches per inch.

6. Ensure gusset and bottom portion of cushion cover is inside out. Sew new cushion cover top panel to gusset and attached bottom portion of cover assembly keeping seam 3/8 inch from edge.

7. Topstitch both top panel and gusset to prevent fraying. Topstitching will be visible when cushion cover assembly is turned right side out.

8. Reinstall cushion foam into cover assembly. Ensure cushion cover fits foam in same manner as original cover.

9-76. RADIO BEACON AN/URT-33A REPLACEMENT. Replace the radio beacon as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Rubber Band, Type I	MIL-R-1832

- 1. Unsnap left thigh cushion and fold back.
- 2. Remove radio beacon from bracket.
- 3. Place radio beacon slide switch in OFF position.
- 4. Remove flexible antenna from receptacle by pushing bayonet fitting in and rotating to the left (counterclockwise).
- 5. Forward beacon to appropriate level maintenance facility.
- 6. Obtain RFI beacon and inspect for damage.

NOTE

Refer to paragraph 9-32 to determine if replacement beacon has been modified.

7. Refer to paragraph 9-32 for rigging and packing procedures of beacon.

8. Reattach snap fastener of left thigh cushion.

9-77. REPLACEMENT OF RESTRAINT HARNESS LAPBELT ADJUSTER. Replace restraint harness lapbelt adjuster as follows:

Materials Required

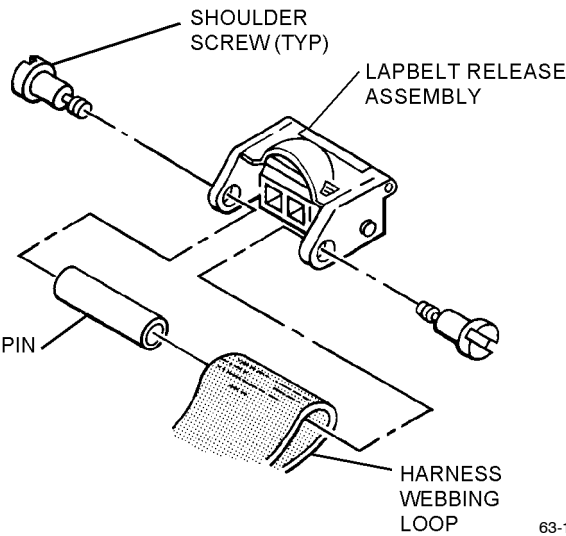
Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

These replacement procedures may be used on either right or left side restraint harness assemblies.

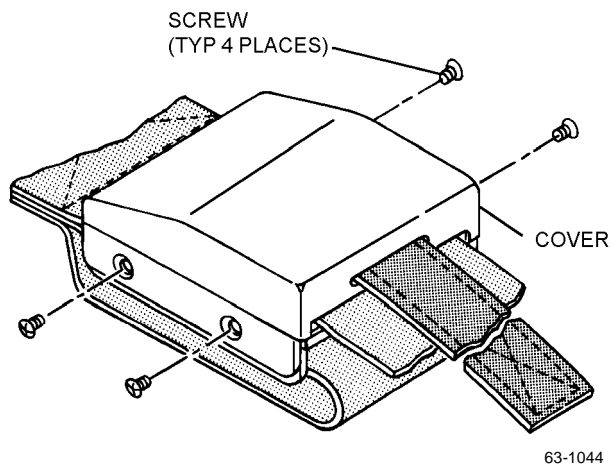
1. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing and slide pin out of harness webbing loop. Retain all parts.



63-1043

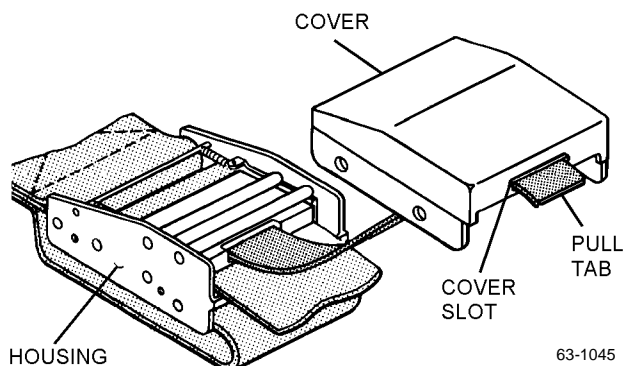
Step 1 - Para 9-77

- a. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



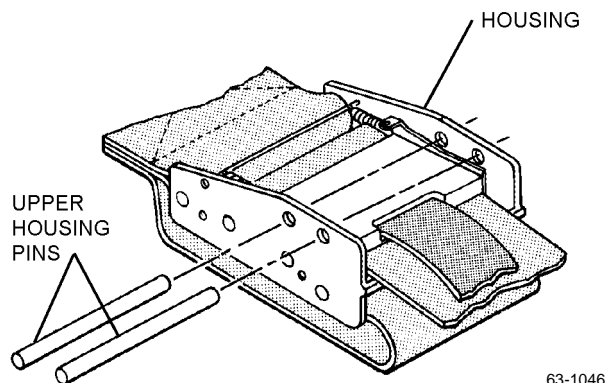
Step 1a - Para 9-77

- b. Remove cover from lapbelt adjuster housing and slide pull tab through cover slot.



Step 1b - Para 9-77

- c. Slide upper housing pins out of housing.

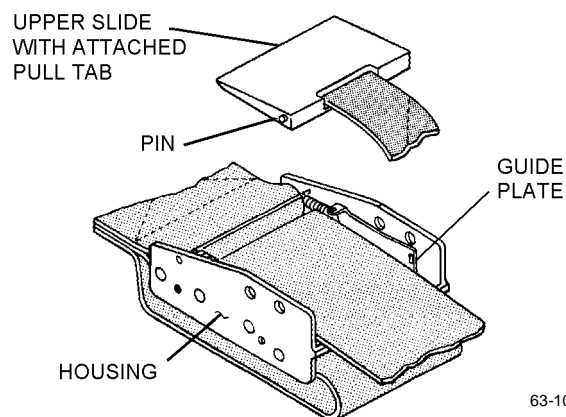


Step 1c - Para 9-77

NOTE

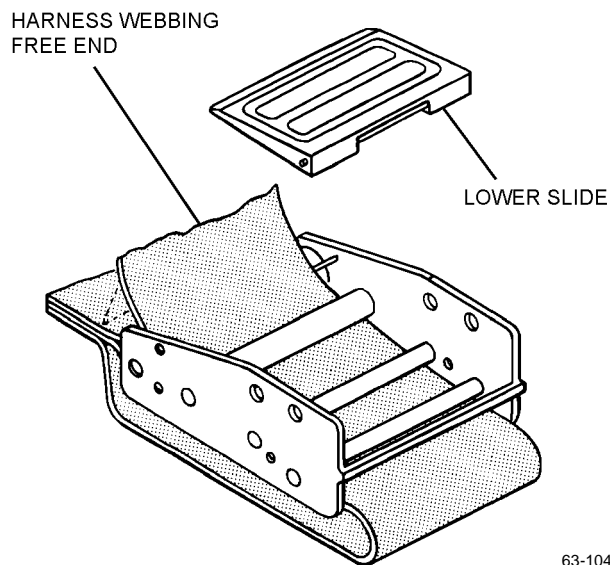
Slide is held to guide plate by pins. Pull slide up so guide plates are above edge of housing and rotate slide out of guide plates.

- d. Remove upper slide with attached pull tab.



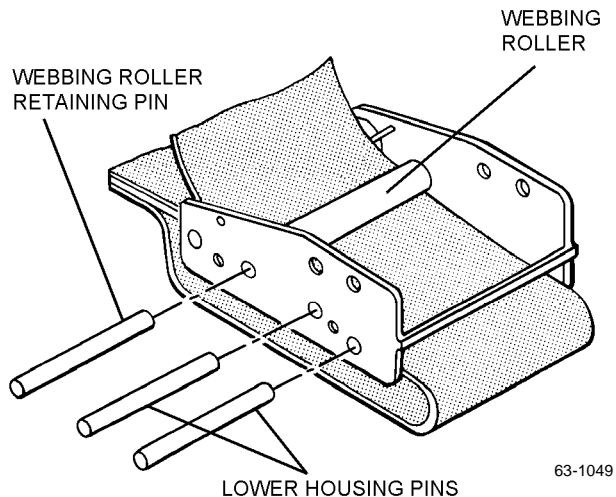
Step d - Para 9-77

- e. Lift free end of harness webbing and remove lower slide.



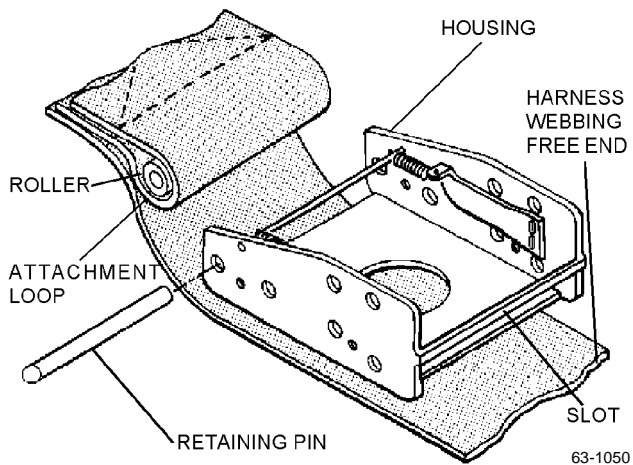
Step 1e - Para 9-77

f. Position guide plates up and out of the way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



Step 1f - Para 9-77

g. Pull free end of harness webbing through slot in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



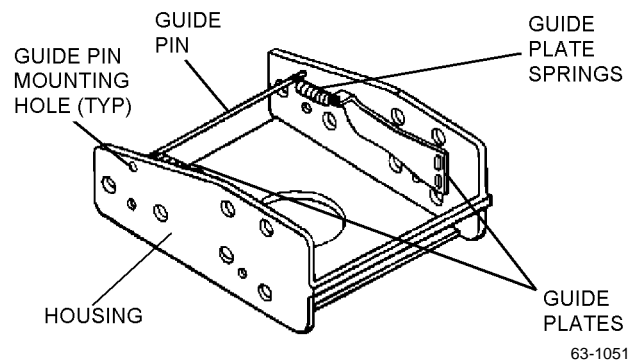
Step 1g - Para 9-77

2. Install lapbelt adjuster as follows:

NOTE

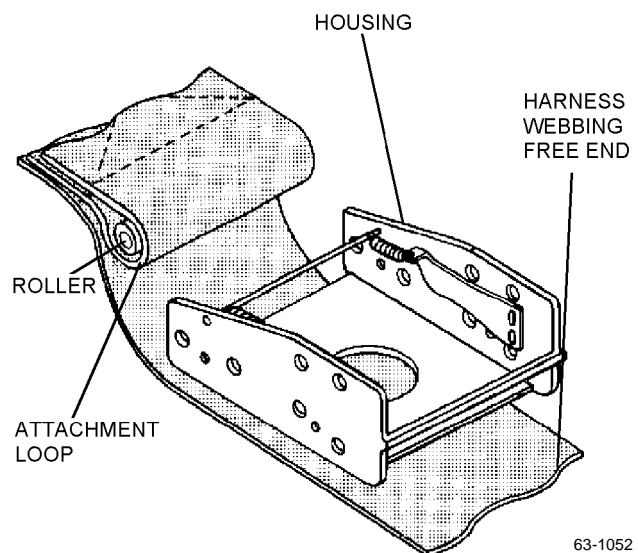
The six pins (two retaining and four housing) are interchangeable. The two rollers are interchangeable.

a. If required, slide guide plate springs on to guide pin and ensure guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



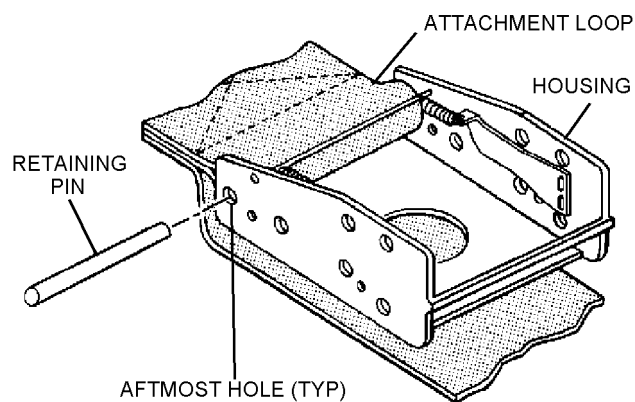
Step 2a - Para 9-77

b. Insert roller into attachment loop of harness webbing. Place adjuster housing on to free end of harness webbing so that aft end of housing faces attachment loop.



Step 2b - Para 9-77

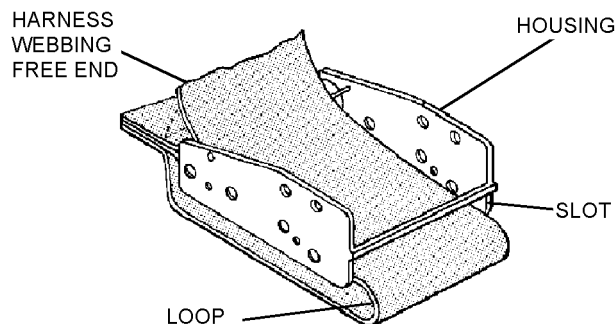
c. Position housing on to attachment loop and roller. Align hole through roller with aftmost holes in housing and install retaining pin.



63-1053

Step 2c - Para 9-77

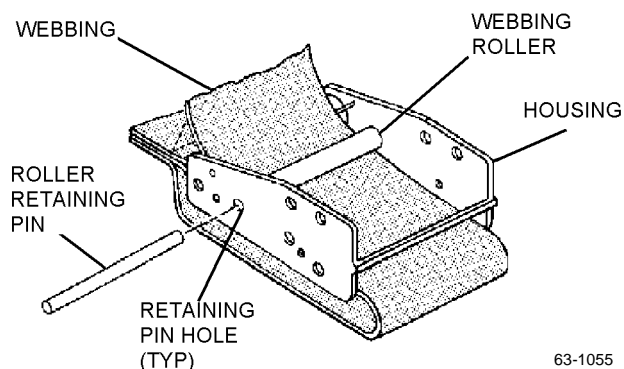
d. Fold free end of webbing back towards housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.



63-1054

Step 2d - Para 9-77

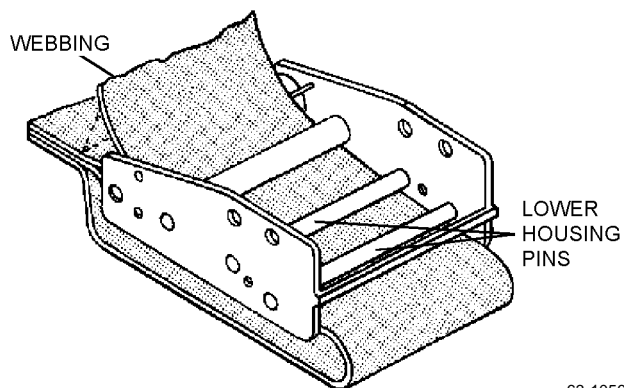
e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing and insert roller retaining pin.



63-1055

Step 2e - Para 9-77

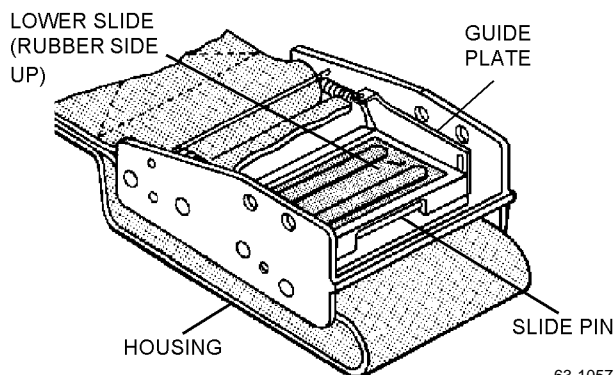
f. Insert lower housing pins. Ensure that pins are resting on top of webbing.



63-1056

Step 2f - Para 9-77

g. Position guide plates into housing on top of lower housing pins. Install lower slide, rubber side up. Ensure that slide pin is correctly positioned into lower slot of guide plates.

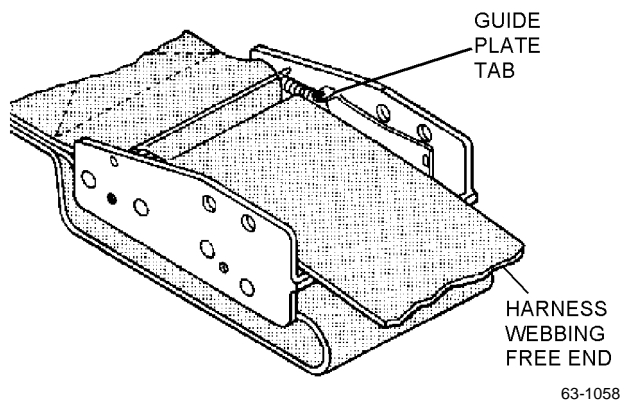


63-1057

Step 2g - Para 9-77

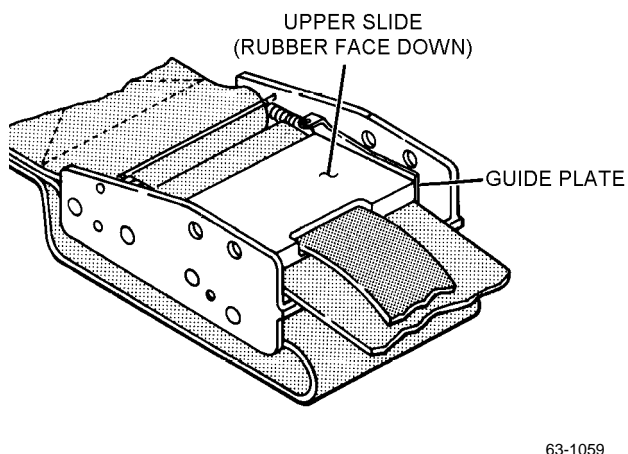
NAVAIR 13-1-6.3-2

h. Position harness webbing free end under tabs of guide plates and lay webbing down over lower slide.



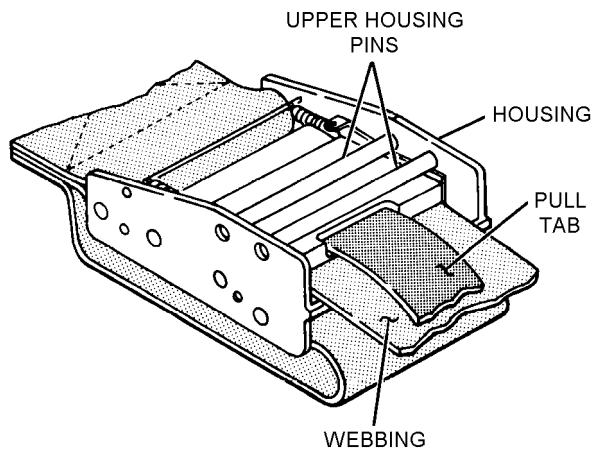
Step 2h - Para 9-77

i. Install upper slide, rubber face down. Ensure that lower slide does not come out of place and that pins sit securely in slots of guide plates.



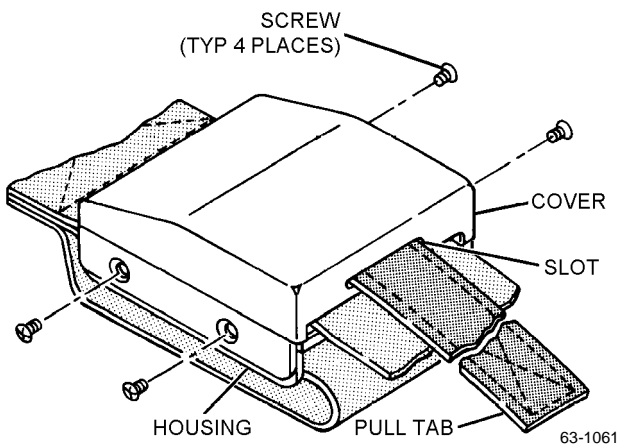
Step 2i - Para 9-77

j. Install upper housing pins. Ensure slides operate correctly (pull on pull tab to check simultaneous movement of slides). Webbing shall slide with ease through adjuster in either direction.



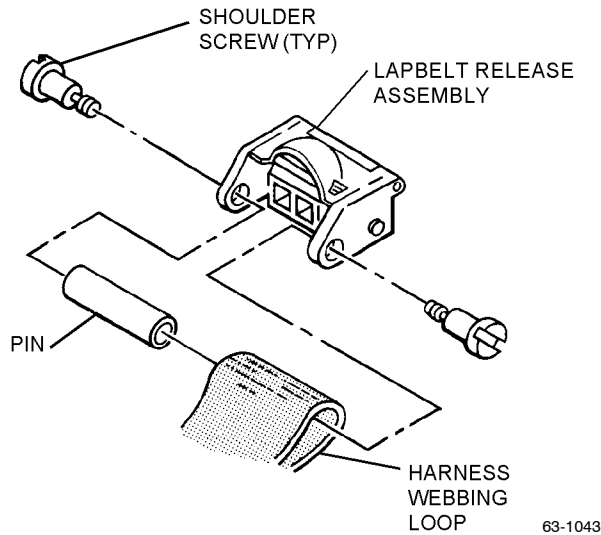
Step 2j - Para 9-77

k. Insert pull tab from inside out through slot in cover. Place cover on housing and align four screw poles. Apply sealing compound to threads of attaching four screws and secure cover to housing.



Step 2k - Para 9-77

3. Apply sealing compound to threads of two shoulder screws. Insert pin in webbing harness loop and position in lapbelt release assembly. Reinstall shoulder screws.



Step 3 - Para 9-77

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

9-78. REPLACEMENT OF LAPBELT ASSEMBLIES. Refer to [figure 9-19](#) and replace either left (21) or right (22) adjustable harness assembly (lapbelt) as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

If item cannot be acquired from supply, repair of lapbelt in accordance with [paragraph 9-78A](#) is authorized for one time only. A second repair is not authorized. Repaired lapbelts shall be replaced with new assets upon availability from the supply system.

1. Remove Koch connector by removing two shoulder screws. Pull connector away from webbing and slide pin out of the harness webbing loop ([paragraph 9-77](#)). Retain all parts.

2. Remove cap nut (25, [figure 9-19](#)) and withdraw harness retention pin (26). Separate lapbelt from rear fitting (34). Remove retention roller (27) from the harness webbing loop. Retain all parts.

3. Remove two attaching screws (23) from footman bracket (24) and remove bracket from harness webbing loop. Retain all parts.

4. Install harness assembly (lapbelt) by installing retention roller (27) in harness webbing loop. Position harness loop and retention roller in rear fitting (34), insert retention pin (26) through rear fitting and retention roller and secure with cap nut (25).

5. Insert footman bracket (24) through the webbing loop on lapbelt harness and secure bracket on lid assembly with two attaching screws (23).

6. Apply sealing compound to threads of two shoulder screws. Insert pin in webbing harness loop, position in Koch connector, and reinstall shoulder screws ([paragraph 9-77](#)).

9-78A. REPAIR OF LAPBELT ASSEMBLIES.

If item cannot be acquired from supply, repair of lapbelt is authorized for one time only. No deviations from this repair shall be authorized without the express written consent of the survival kit engineering support activity, NAWCAD Patuxent River, Code 4621. A second repair is not authorized. Repaired lapbelts shall be replaced with new assets upon availability from the supply system. If new assets are unavailable from supply, repair lapbelt assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, Textile Treated, Type 13	MIL-W-4088 NIIN 00-260-4586
As Required	Thread, Nylon Bonded Finish, Type II, Class A, Size 3, Olive Drab	V-T-295 NIIN 00-559-5212

Support Equipment Required

Quantity	Description	Reference Number
As Required	Needle, Sewing Machine, Size 23 (Note 1)	—

Notes: 1. If using class 111 or 211 sewing machine.

NOTE

Repair of lapbelt assembly is for one time only. If lapbelt has been repaired, a second repair is not authorized. All stitching shall be ASTM-D-6193, Type 301 Lockstitch, 8 stitches per inch and backstitch 1 inch minimum.

1. Remove adjuster and release assembly from lapbelt in accordance with restraint harness lapbelt adjuster replacement procedures (paragraph 9-77).

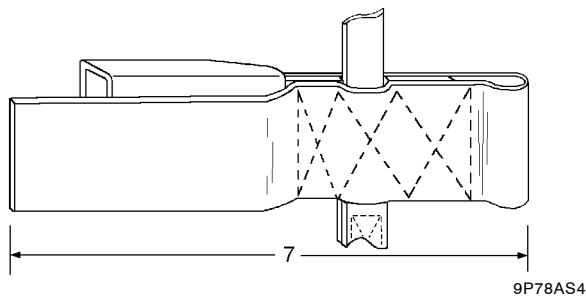
2. Lay out lapbelt on work bench with adjuster loops facing down toward work bench surface and webbing laying flat (RH lapbelt will have sticker clip facing toward technician, LH lapbelt will have sticker clip facing away from technician).

3. Measure 7 inches from the end of the rear fitting loop and place a mark. This mark should be past the folded sewn end of the lapbelt.

NOTE

Ensure no sharp edges are on the webbing after searing.

4. Sear cut the webbing at the 7 inch mark made in step 3.



Step 4 - Para 9-78A

5. With webbing laying on the work bench as in step 2, measure 3 inches from the sear cut end and mark webbing.

6. Cut a 26 1/4 inch length of Type 13, treated webbing.

NOTE

Ensure no sharp edges are on the webbing after searing.

7. Sear both ends of the webbing.

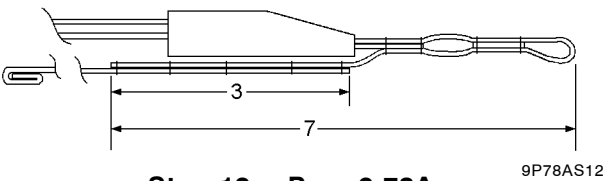
8. Measure 3 inches from one end and mark the webbing across the entire width.

9. Measure 1/4 inch inward from mark made in step 8 and make a small mark at the edge of the webbing.

10. Measure 1/2 inch inward from mark made in step 9 and place another small mark at the edge of the webbing. Repeat until 5 marks are made, each 1/2 inch apart. Last mark should be 1/4 inch from the sheared edge of the webbing.

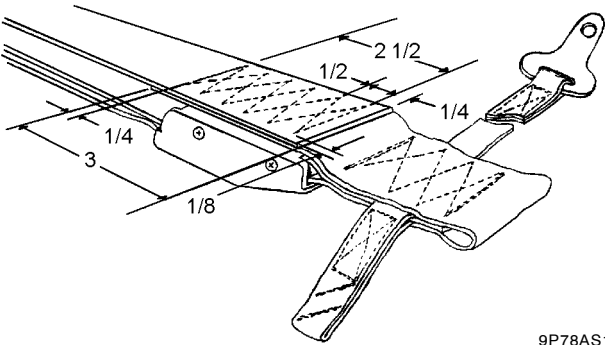
11. Mark opposite side of the webbing directly across from the marks made in step 10.

12. Place the 3 inch section of marked webbing over top of webbing marked in step 5. Ensure that 3 inch mark made in step 8 and webbing edge align.



Step 12 - Para 9-78A

13. Starting 1/8 inch from the outside edge furthest away from the adjuster attaching loop, sew a 6 point cross-stitch pattern 1/8 inch from the edges of the webbing using the 5 marks made in step 10 as a guide. Cross-stitch points should be 1/2 inch from adjacent points.

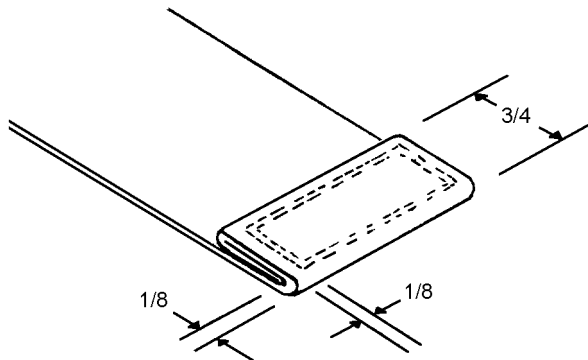


Step 13 - Para 9-78A

14. Measure in 1 1/2 inches from the other seared end of the webbing and mark webbing.

15. Double fold end of webbing marked in [step 12](#), making a 3/4 inch fold on webbing end. Double fold shall be located on the same side of webbing as the lapbelt adjusting attaching loop.

16. Sew 2 rows of stitches in the double fold using box stitch pattern 1/8 inch from edges.



Step 16 - Para 9-78A

9P78AS16

17. Reinstall lapbelt adjuster and release assembly in accordance with respective lapbelt adjuster replacement procedures using retained hardware ([paragraph 9-77](#)).

18. Quality Assurance Representative shall inspect webbing for stitching, adjuster for smoothness of operation, and proper installation of lapbelt assembly.

19. Reinstall repaired lapbelt assembly(s) onto survival kit rear fitting(s) and ensure kit is RFI.

20. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

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9-79. REPLACEMENT OF FORWARD STRAP ASSEMBLY. To replace the right or left forward strap assembly refer to items 1 and 2, [figure 9-19](#), and proceed as follows:

1. Remove three attaching screws (3) and cap nuts (4) and remove forward strap from lid assembly.
2. Install forward strap assembly on lid assembly using three screws (3) and new cap nuts (4).

9-80. REPLACEMENT OF SIDE STRAP ASSEMBLIES. To replace the right or left side strap assembly refer to item 9, [figure 9-19](#), and proceed as follows:

1. Remove two attaching cap nuts (10) and screws (11) and remove the side strap from lid assembly.
2. Ensure that folded over and seared edges of side strap assembly face toward the rucksack. Then install side strap on lid assembly using two attaching screws (11) and new cap nuts (10).

9-81. REPLACEMENT OF THE AFT STRAP ASSEMBLY. To replace aft strap assembly refer to item 5, [figure 9-19](#), and proceed as follows:

1. Remove aft strap assembly from lid assembly by removing two attaching cap nuts (6), screws (7) and washers (8).
2. Ensure folded over and seared edges of aft strap assembly face toward rucksack. Then install aft strap assembly on lid assembly using two attaching screws (7), washers (8) (installed under head of screws), and new cap nuts (6).

9-82. REPLACEMENT OF REAR FITTING ASSEMBLY. To replace either left or right rear fitting assembly refer to item 34, [figure 9-19](#), and proceed as follows:

1. Remove lapbelt assembly ([paragraph 9-78](#)).
2. Remove rear fitting from lid assembly by removing attaching cap nut (37), washer (38), anti-chafe washer (36), and rear attachment pin (35).
3. Install rear fitting on lid assembly using rear attachment pin (35) with anti-chafe washer (36) installed under head of pin, washer (38), and new cap nut (37).

4. Reinstall lapbelt assembly ([paragraph 9-78](#)).

9-83. REPLACEMENT OF REAR ATTACHMENT FITTING ASSEMBLY. To replace either left or right rear attachment fitting assembly refer to item 39, [figure 9-19](#), and proceed as follows:

1. Remove lapbelt assembly ([paragraph 9-78](#)).
2. Remove the rear fitting assembly ([paragraph 9-82](#)).
3. Remove two attaching cap nuts (40), four washers (42), and two screws (41) securing fitting (39) to side of lid assembly.

4. Remove attaching cap nut (43), two washers (45) and screw (44) securing fitting to top of lid assembly and remove rear attachment fitting (39) from lid.

5. Install rear attachment fitting (39) to side of lid assembly using two attaching screws (41), four washers (42) (one washer under each screw head and one under each cap nut), and two new cap nuts (40).

6. Secure top of rear attachment fitting (39) to lid assembly using attaching screw (44), two washers (45) (one under head of screw and one washer under cap nut), and new cap nut (43).

7. Reinstall rear fitting (34) ([paragraph 9-82](#)).

8. Reinstall lapbelt assembly (21 or 22) ([paragraph 9-78](#)).

9-84. REPLACEMENT OF EMERGENCY OXYGEN ACTUATION HANDLE ASSEMBLY. To replace emergency oxygen actuation handle assembly, proceed as follows:

1. Remove handle assembly (12, [figure 9-19](#)) from lid assembly by removing two attaching cap nuts (13), four washers (15) and screws (14). Remove cotter pin (45, [figure 9-17](#)), washer (44), and pin (43). Discard cotter pin (45).

2. Install handle assembly (12, [figure 9-19](#)) on lid assembly using two attaching screws (14), four washers (15) (one under each screw head and one under each cap nut), and two new cap nuts (13). Install pin (43, [figure 9-17](#)), washer (44), and new cotter pin (45). Bend cotter pin ends outward to 90° angle.

9-85. REPLACEMENT OF STUD AND EYELET ASSEMBLY. Refer to [figure 9-19](#) and replace stud and eyelet assembly as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove screw (19), washer (20), stud (17) and eyelet (18) from lid assembly and discard all damaged items.

2. Apply sealing compound to threads of screw (19). Install eyelet (18) and stud (17) on lid assembly and secure with washer (20) and screw (19).

9-86. REPLACEMENT OF PIVOT FITTING ASSEMBLY. To replace either right or left pivot fittings refer [figure 9-19](#) and proceed as follows:

1. Remove two attaching cap nuts (53), four washers (55), and two screws (54) from front of pivot fitting (51, 52). Then from side of fitting remove two attaching cap nuts (53), two washers (55), installed shims (57, 58, and 59, as applicable), and two screws (56).

NOTE

When removing pivot fittings, note number and size of shims installed between fitting and lid assembly.

2. Install pivot fitting assembly (51, 52) on side of lid assembly by installing two attaching screws (56), shims (57, 58, and 59) between fitting and lid in same quantity and size removed (as applicable), two washers (55), and two new cap nuts (53).

NOTE

Shims (57, 58 and 59) shall to be installed in equal numbers under each pivot fitting as required to ensure overall width of the kit lid is 16.71 inches ([figure 9-10](#)).

3. Secure the front of fitting by installing two attaching screws (54), four washers (55) (one under head of each screw and one under each cap nut), and two new cap nuts (53).

9-87. REPLACEMENT OF THE RADIO BEACON BRACKET. To replace radio beacon bracket refer to item 46, [figure 9-19](#) as follows:

1. Remove and discard rubber pads (49) from bracket (46). Drill out four rivets (47) securing the bracket to the kit lid. Discard rivets (47) and washers (48).

2. To install radio beacon bracket, position bracket on lid assembly over drilled rivet holes. Install four rivets (47) with one washer (48) under the head of each rivet to secure the bracket to lid assembly.

3. Using a suitable impact adhesive, apply two new rubber pads (49) in bottom of bracket to cushion radio beacon.

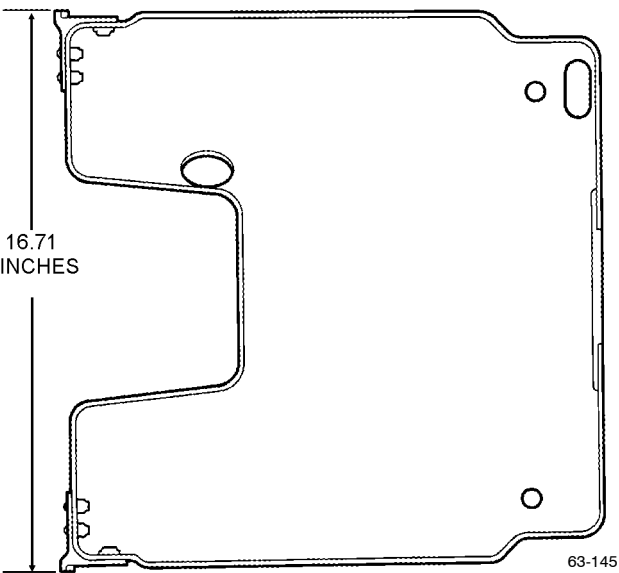


Figure 9-10. SKU-11/A Lid Assembly

9-88. REPLACEMENT OF PRESSURE REDUCER. To replace the pressure reducer assembly refer to item 1, [figure 9-18](#), and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly from lid assembly in accordance with [paragraph 9-61](#). Remove two threaded pins (2) from high pressure manifold (6) and separate pressure reducer (1) from manifold.

NOTE

Do not disassemble the pressure reducer.

2. Install pressure reducer assembly (1) in high pressure manifold (6). Apply sealing compound to threads of two attaching pins (2) and secure pressure reducer assembly.

NOTE

Use any contrasting color when applying tamper dots to attaching pins.

3. Apply tamper dots on two attaching pins using sealant MIL-S-22473 ([figure 9-11](#)).

4. Reinstall emergency oxygen assembly on lid assembly ([paragraph 9-95](#)).

9-89. REPLACEMENT OF EMERGENCY OXYGEN CYLINDER ASSEMBLY. To replace oxygen cylinder assembly refer to item 3, [figure 9-18](#) and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Krytox 240 AZ	MIL-G-27617 NIIN 01-007-4384
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly in accordance with [paragraph 9-61](#).

2. Remove oxygen cylinder (3) from high pressure manifold (6). Remove and discard O-ring (5) from nipple union (4). Remove nipple union from oxygen cylinder. Remove any residual anti-seize tape attached to the threads of the nipple union. Clean threads using lint-free cloth moistened with water.

3. To install oxygen cylinder assembly, apply anti-seize tape to a maximum of 1 1/2 turns to both threaded ends of nipple union (4). Ensure that tape has no loose ends and is started one complete thread from ends of nipple union.

4. Lightly lubricate contact surfaces of new O-ring (5) with Krytox 240 AZ and install on nipple union. Install nipple union on manifold (6) and torque to a maximum of 125 inch-pounds.

5. Install oxygen cylinder on taper thread of nipple union while restraining the nipple union with a spanner. Torque cylinder onto nipple union to a maximum of 125 inch-pounds. Ensure that not more than four threads are showing between nipple union and bottle end cap.

NOTE

Use any contrasting color when applying tamper dot.

6. Apply tamper dot using sealant MIL-S-22473 ([figure 9-11](#)).

7. Reinstall emergency oxygen assembly on lid assembly ([paragraph 9-95](#)).

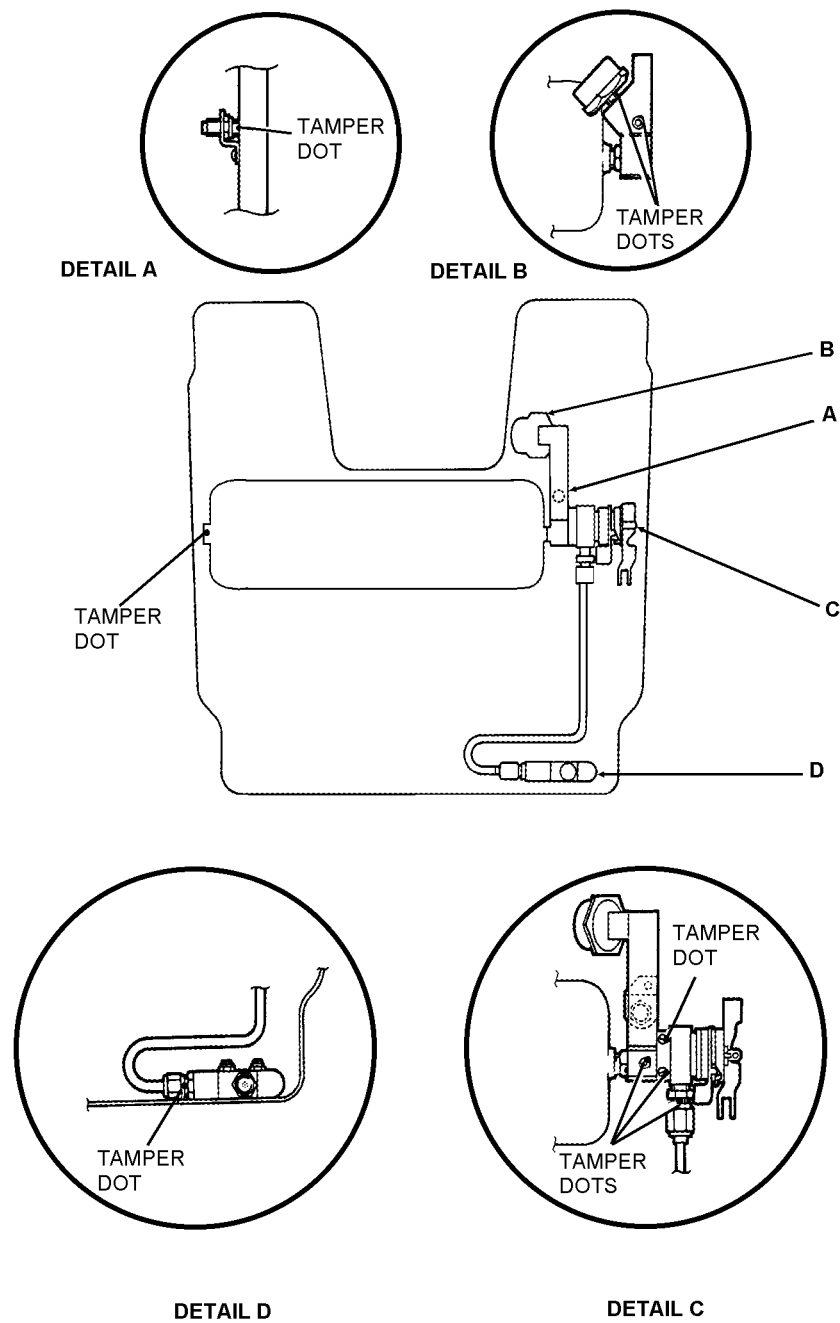


Figure 9-11. Location of Tamper Dots

9-90. REPLACEMENT OF OXYGEN GAGE ASSEMBLY. To replace oxygen gage assembly refer to [figure 9-18](#), and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Sealing, Locking, and Retaining Compound Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly from lid assembly ([paragraph 9-61](#)). Remove oxygen pressure gage (7) from high pressure manifold (6).

2. To install oxygen pressure gage (7), ensure that all foreign matter is removed from threads of gage using lint-free cloth moistened with water. Apply anti-seize tape to threads a maximum of 1 1/2 turns. Ensure that there are no loose ends and that tape starts one complete thread from beginning of gage thread.

3. Install gage (7) in manifold (6) and torque to a maximum of 125 inch-pounds.

NOTE

Use any contrasting color when applying tamper dot.

4. Apply tamper dot using sealant MIL-S-22473 ([figure 9-11](#)).

5. Reinstall emergency oxygen assembly ([paragraph 9-95](#)).

9-91. REPLACEMENT OF OXYGEN FILLER VALVE ASSEMBLY. To replace oxygen filler valve assembly refer to item 11, [figure 9-15](#) and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Anti-seize Tape	MIL-T-27730
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-8291
As Required	Sealing, Locking, and Retaining Compound Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)
As Required	Sealing, Locking, and Retaining Compound Grade B, Type B	MIL-S-22473 NIIN 01-163-3483 (Note 1)

Notes: 1. Use any contrasting color.

1. Remove emergency oxygen assembly ([paragraph 9-61](#)).

2. Remove attaching screw (9) and washer (10), and filler valve retaining bracket (8).

3. Remove filler valve (11) from high pressure manifold (6), and remove filter (13).

4. To install filler valve, ensure all foreign matter is removed from threads using lint-free cloth moistened with water. Apply anti-seize tape to threads of filler valve to a maximum of 1 1/2 turns. Ensure that there are no loose ends and that tape starts one complete thread from beginning of filler valve thread.



Filter must not be installed when using alternate Fill Valve P/N 9120097-27.

5. Install filter (13) in high pressure manifold (6). Install filler valve (11) in manifold and torque to a maximum of 125 inch-pounds.

6. Apply sealing compound to threads of screw (9). Position retaining bracket (8) over filler valve and secure with washer (10) and screw (9).

NOTE

Use any contrasting color when applying tamper dot.

7. Apply tamper dot using sealant, MIL-S-22473 ([figure 9-11](#)).

8. Reinstall emergency oxygen assembly ([paragraph 9-95](#)).

9-92. OXYGEN FILLER VALVE CORE REPLACEMENT. Remove seat survival kit from aircraft in accordance with applicable maintenance manual.

WARNING

If necessary to release oxygen pressure, pull emergency oxygen lanyard. This releases oxygen through pressure reducer manifold. Do not release pressure through filler valve or adapter. High pressure oxygen moving through restriction of filler valve causes heat and could result in fire or explosion.

NOTE

Replacement of valve core procedures are not applicable if using alternate Fill Valve P/N 9120097-27.

- 1. Release oxygen pressure by pulling emergency oxygen actuating lanyard.
- 2. Remove survival kit seat cushion (paragraph 9-72).
- 3. Remove plug and cap assembly (1, figure 9-17).
- 4. Remove valve core using extractor tool.

WARNING

Valve cores used with high pressure oxygen systems are specially oxygen cleaned and packaged. Ensure package has not been damaged and valve core has not been contaminated.

- 5. Install valve core using extractor tool.
- 6. Fill emergency oxygen cylinder to 1800 - 2000 psi (paragraph 9-52).
- 7. Install plug and cap assembly (1, figure 9-17).
- 8. Install survival kit seat cushion (paragraph 9-74).
- 9. Reinstall seat survival kit in aircraft in accordance with applicable maintenance manual.

9-93. REPLACEMENT OF THE RUCKSACK SLIDE FASTENER. Replace rucksack slide fastener (5, figure 9-16) as follows:

Materials Required

Quantity	Description	Reference Number
1	Fastener, Slide, Interlocking, Type I, Style 3, Size M	V-F-106
As Required	Thread, Nylon, Size E	V-T-295

- 1. Remove slide fastener by carefully cutting thread securing slide fastener to the rucksack. Remove and discard old slide fastener.
- 2. Remove all of the old thread from the stitching pattern.

NOTE

Install slide fastener so that it opens by moving slide fastener from left to right.

- 3. Following existing stitching pattern, stitch slide fastener to rucksack using size E nylon thread.
- 4. After completion of installation, operate the slide fastener to ensure smooth operation.

9-94. ASSEMBLY.

9-95. ASSEMBLY AND INSTALLATION OF EMERGENCY OXYGEN ASSEMBLY. To assemble and install emergency oxygen assembly on lid assembly, refer to figure 9-9 and proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)
As Required	Sealing, Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-3883 (Note 1)

Notes: 1. Use any contrasting color.

1. Apply sealing compound to threads of two attaching screws (32). Install conduit bracket (25), cantilever spring (39) and attaching screws (32) on reducer assembly (18). Ensure cantilever spring is installed with bend facing toward and applying pressure on reducer sear cam.

2. Ensure cantilever spring is properly installed by rotating sear (22) and reducer auto actuation cam. The cantilever spring should bend outward. Rotate cam to the ON position with lever parallel to the sear and facing away from the cantilever spring.

3. Apply sealing compound to threads of long nipple of conduit assembly (24). Install one retaining nut (23) and position it approximately midpoint on long nipple, insert nipple into conduit bracket (25) and install second nut (23), hand tight only.

4. Install the auto actuation cable into slot in reducer automatic actuation cam. Install spring pin (38) to retain cable.

5. Position emergency oxygen assembly (33) in lid assembly so auto actuation conduit protrudes through access hole in automatic release housing (28). Apply sealing compound to threads of conduit nipple and install housing (28) on automatic actuation conduit (24).

6. Loosely install cylinder clamp assemblies (36 and 37) as follows:

a. Install clamp with clip nut at reducer end of cylinder.

b. Clamp with uneven length legs installed at opposite end; longer leg toward front of kit.

7. Apply sealing compound to threads of one attaching screw (40) and install through lid into base of high pressure manifold. Tighten screw.

8. Install screw (46) and cap nut (45) to secure conduit bracket (25) to lid assembly.

9. Tighten cylinder clamp screws (34) and cap nuts (35).

10. Install low pressure manifold (52) on lid assembly using two attaching bolts (49), washers (50) and cap nuts (51).

NOTE

Use any contrasting color when applying tamper dots to connecting unions.

11. Install low pressure tube assembly (47) on reducer (18) and low pressure manifold (52). Torque connecting union nuts (17 and 48) to no more than 125 inch-pounds. Apply tamper dots to connecting unions using sealant (figure 9-11).

12. Install straight pin (21), washer (20), and cotter pin (19) to attach sear (22) to emergency oxygen handle (10).

13. Secure tube assembly (47) to lid assembly using clamp (44), screw (41), washer (43) and cap nut (42). If tube assembly requires slight bending to install, make only large radius bends. Do not crease or kink tube.

14. Apply sealing compound to threads of two attaching screws (30), and install automatic release housing (28) on lid assembly using two washers (31) and screws (30).

15. Rotate automatic actuation cam to the ON position, insert actuation cable ball in slide (29) and insert slide in housing (28).

16. Ensure cable is properly positioned in slide (29). Move slide back and forth in its track to ensure that cable moves freely in conduit assembly (24).

17. Apply sealing compound to threads of four attaching screws (26) and install cover (27) on release assembly housing (28).

18. Secure automatic actuation conduit (24) to bracket (25) by tightening two retaining nuts (23).

NOTE

Use any contrasting color when applying tamper dots to retaining nuts.

19. Ensure that slide (29) moves to full forward position before automatic actuation cable (24) becomes taut. If necessary, adjust two retaining nuts (23) to obtain proper slide position. Apply tamper dots to retaining nuts using sealant (figure 9-11).

20. Using a suitable pin punch, move slide (29) to its forward position.

21. Insert the ball of cable-to-lanyard assembly (11) into slide (29). Rotate reducer cam to the OFF position. If necessary reset manual actuation handle (10) to the OFF position.

22. Pull lanyard assembly (11) and ensure that automatic actuation cam is tripped to the ON position and that lanyard (11) releases from slide (29).

23. Insert the ball of cable-to-lanyard assembly (11) into slide (29) and reset manual actuation handle (10) to the OFF position.

24. Apply a light pull on the cable to ensure that lanyard is retained by slide (29).

25. Reinstall cover (16) to lid assembly using four attaching screws (13), washers (14) and cap nuts (15).

26. Purge and charge emergency oxygen system in accordance with [paragraph 9-52](#).

27. Perform Functional Check in accordance with [paragraph 9-51](#).

28. Adjust as necessary ([paragraph 9-96](#)).

9-96. ADJUSTMENTS.

9-97. PRESSURE REDUCER. To adjust flow rates and outlet pressures on pressure reducer assembly, refer to [figure 9-12](#) and proceed as follows:

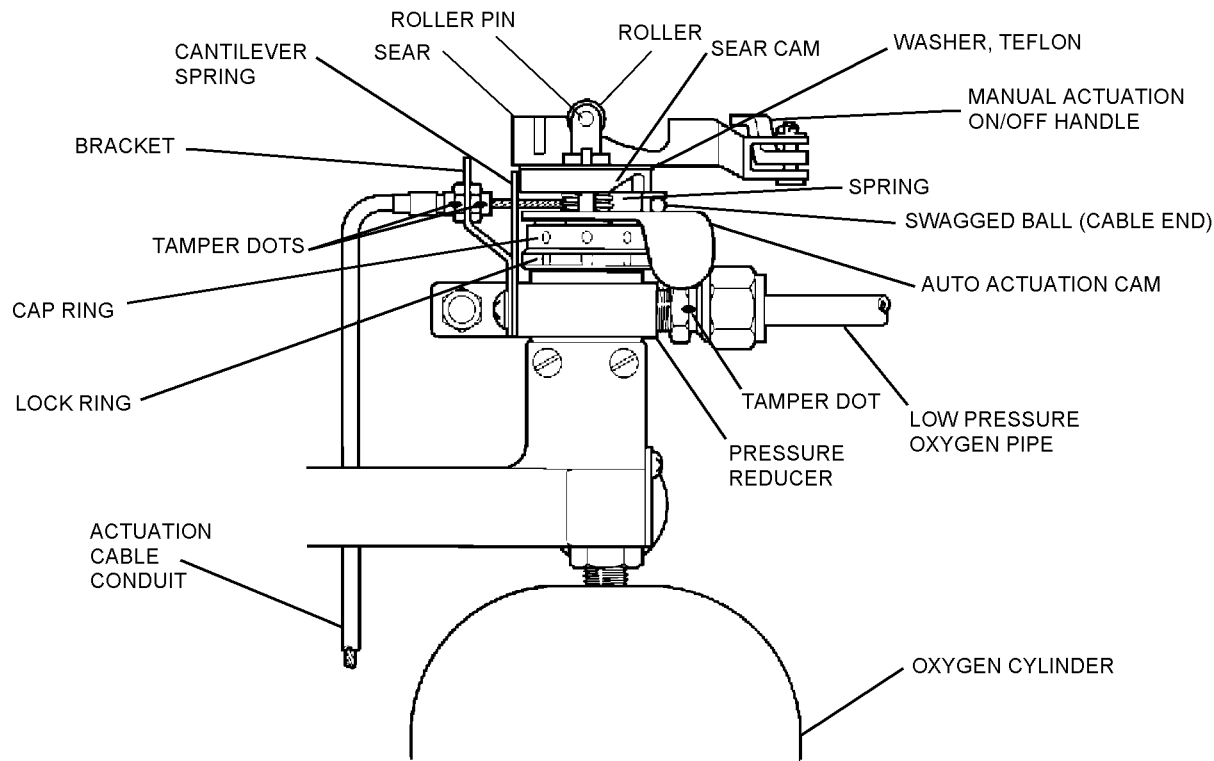
Support Equipment Required

Quantity	Description	Reference Number
1	Tool Set, Wrench, Spanner	T361D907-1 (CAGE 30941) NIIN 01-419-9842

1. Loosen lock ring.
2. Turn adjusting cap counter-clockwise to decrease pressure and clockwise to increase pressure.
3. Tighten lock ring.
4. Perform Functional Check ([paragraph 9-51](#)).

9-98. EMERGENCY OXYGEN AUTOMATIC RELEASE ASSEMBLY. To adjust emergency oxygen automatic release assembly, proceed as follows:

1. To tighten cable, loosen special nut (23, figure 9-17) located on threaded end of conduit (22) inside of bracket (25). Turn nut (23) counterclockwise to loosen, but do not remove from conduit.



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Figure 9-12. Pressure Reducer

2. Turn special nut (23) on the outside of bracket (25) counterclockwise to remove slack from actuation cable.

3. When slack has been removed from actuation cable, turn special nut (23) on inside of bracket (25) clockwise to tighten it against bracket (25) and secure conduit (22).

NOTE

Use any contrasting color when applying tamper dots.

4. Apply tamper dots to special nuts (23), bracket (25), and threaded end of conduit (22) (figure 9-11) using sealant.

5. Inspect cable to ensure all slack has been removed.

Section 9-7. Fabrication

9-99. GENERAL.

9-100. This section contains instructions for fabrication of tools and components which can be manufactured by local maintenance activities.

9-101. ACTUATING LANYARD, AN/URT-33A RADIO BEACON. This lanyard may be fabricated by modifying actuating lanyard P/N 12227-1, 325C365-1, or MBEU130145 as follows:

Materials Required (Cont)

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type III	MIL-C-5040

Support Equipment Required

Materials Required

Quantity	Description	Reference Number
1	Swaging Sleeve	MS51844-61 NIIN 00-127-9488
1	Lanyard, Actuating or Lanyard, Actuating	P/N 12227-1 NIIN 01-170-8367 325C365-1 (MBEU130145)

Quantity	Description	Reference Number
1	Crimping Tool	MIL-C-22520

1. Remove roll pin from actuator plug housing and separate housing, actuator plug, and swaged ball and lanyard. Discard pin and actuator plug (figure 9-13).

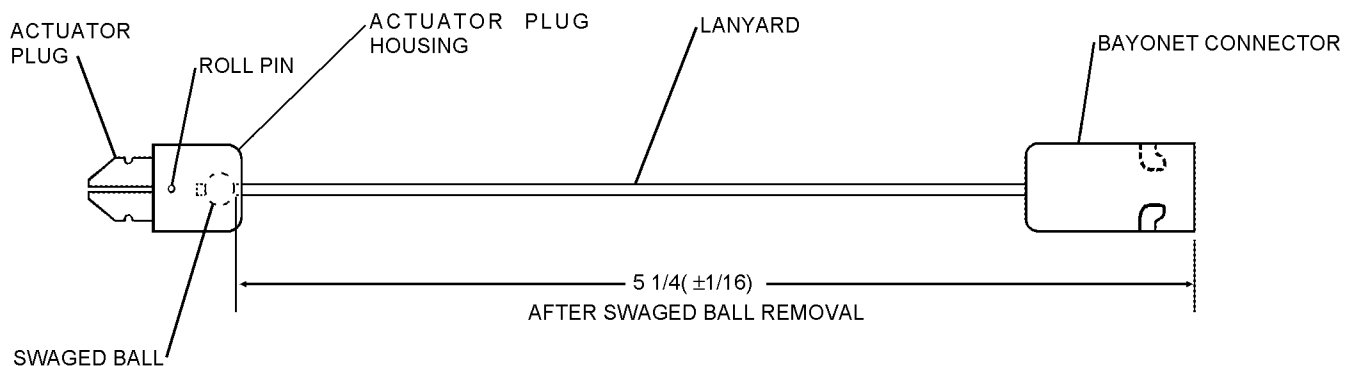


Figure 9-13. Actuating Lanyard Before IACC 589

2. Cut lanyard cable directly behind swaged ball installed on end of cable and discard swaged ball.

NOTE

Total length of lanyard cable and bayonet connector should be 5 1/4 (± 1/16) inches.

3. Insert cable through swaging sleeve and route cable end back into swaging sleeve to form 1/2-inch loop (figure 9-14).

4. Ensure cable end is flush with swaging sleeve and crimp sleeve securely to cable using crimping tool.

NOTE

Total length of finished modified cable (without hairpin cotter attached) should be 4 1/4 (± 1/16) inches.

5. Perform pull test to check security of swaged sleeve as follows:

a. Install length of nylon cord through loop-end of lanyard cable.

b. Install 50-pound weight on bayonet connector-end of lanyard cable.

c. With steady, straight upward pull on nylon cord, lift lanyard assembly with attached weight approximately one foot above its resting point.

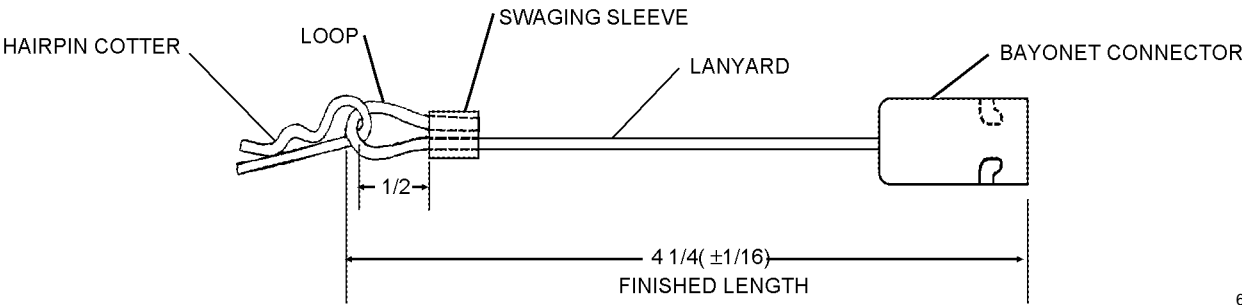
d. Observe lanyard loop in swaged sleeve. If cable moves, repeat steps 3, 4, and 5 until lanyard passes pull test.

9-102. T-WRENCH. Fabricate T-wrench (figure 9-15) using steel rod stock as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Steel rod, 0.250 dia.	—
As Required	Steel rod, 0.156 dia.	—
As Required	Steel rod, 0.093 dia.	—

9-103. ALTERNATE SEAT CUSHION FOAM. To fabricate a replacement foam cushion for the Seat Survival Kit proceed as follows:



63-17

Figure 9-14. Actuating Lanyard Assembly After IACC 589

Materials Required

Quantity	Description	Reference Number
1	Disposable Razor or Knife	—
As Required	CONFOR Foam, 1 inch Thick, CF-47100 Green or CF-45100 Blue	NIIN 01-370-6116 NIIN 01-449-1789

1. Remove old foam from seat cushion cover.
2. Use the old foam as a template, place old foam on top of CONFOR foam.

NOTE

Ensure bulk CONFOR foam is large enough to make the new foam cushion one solid piece.

3. Trace around old foam onto the CONFOR foam, including hole for observing the emergency oxygen gage.

4. Cut CONFOR foam along the traced line.

5. Install new foam cushion into seat cushion cover. Ensure seat cushion cover fits cushion foam snugly, but does not cause bowing or excessively loose condition.

6. Write the date installed on foam with permanent marker so it can be seen easily.

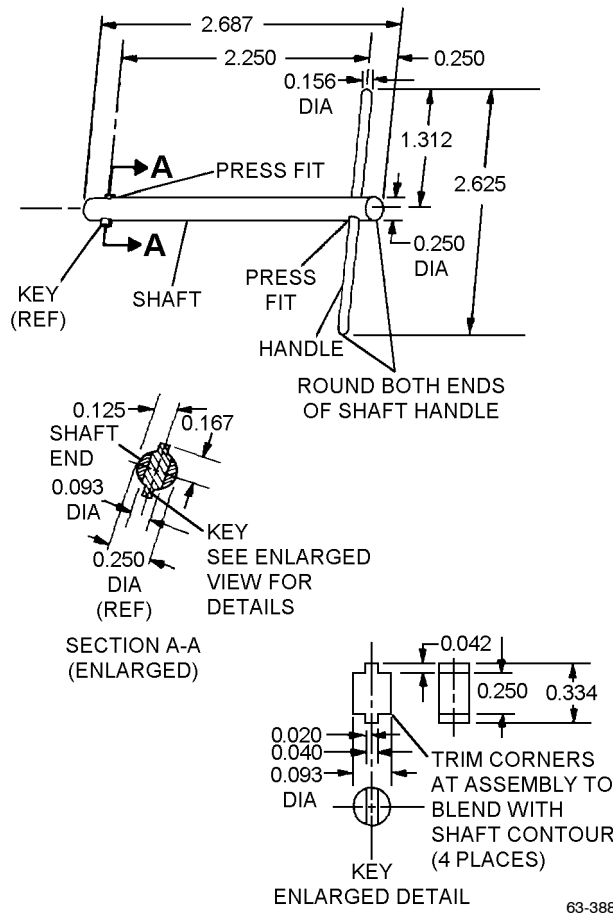


Figure 9-15. T-Wrench Specifications

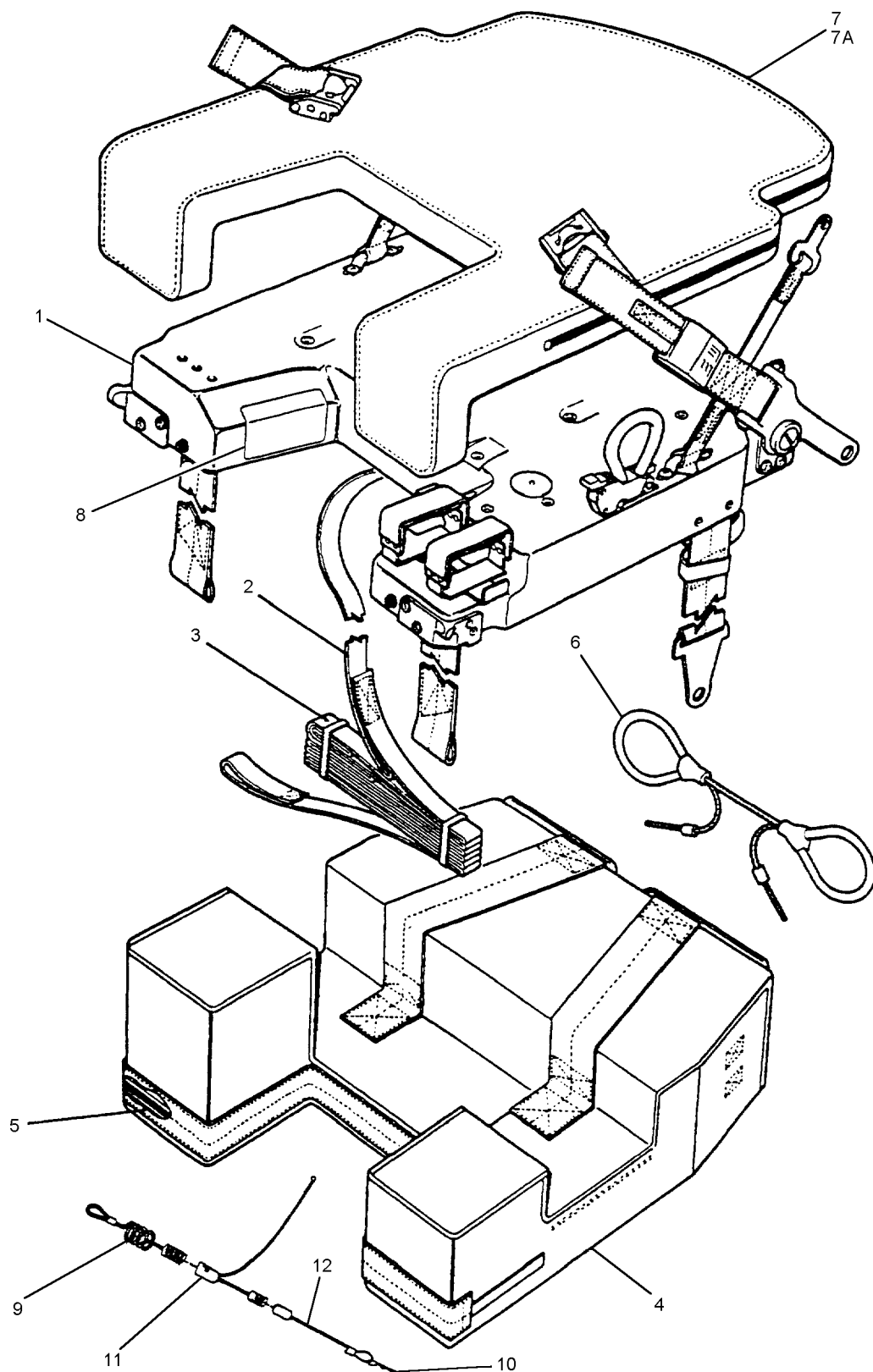
Section 9-8. Illustrated Parts Breakdown

9-104. GENERAL.

9-105. This section lists and illustrates the assemblies and detail parts of the SKU-11/A Seat Survival Kit, Part Number 361E150-3 and 361E150-5 (Post ACC 646). The kit is manufactured by East/West Industries

(CAGE 30941) and is supplied by Martin-Baker Ltd (CAGE U1604).

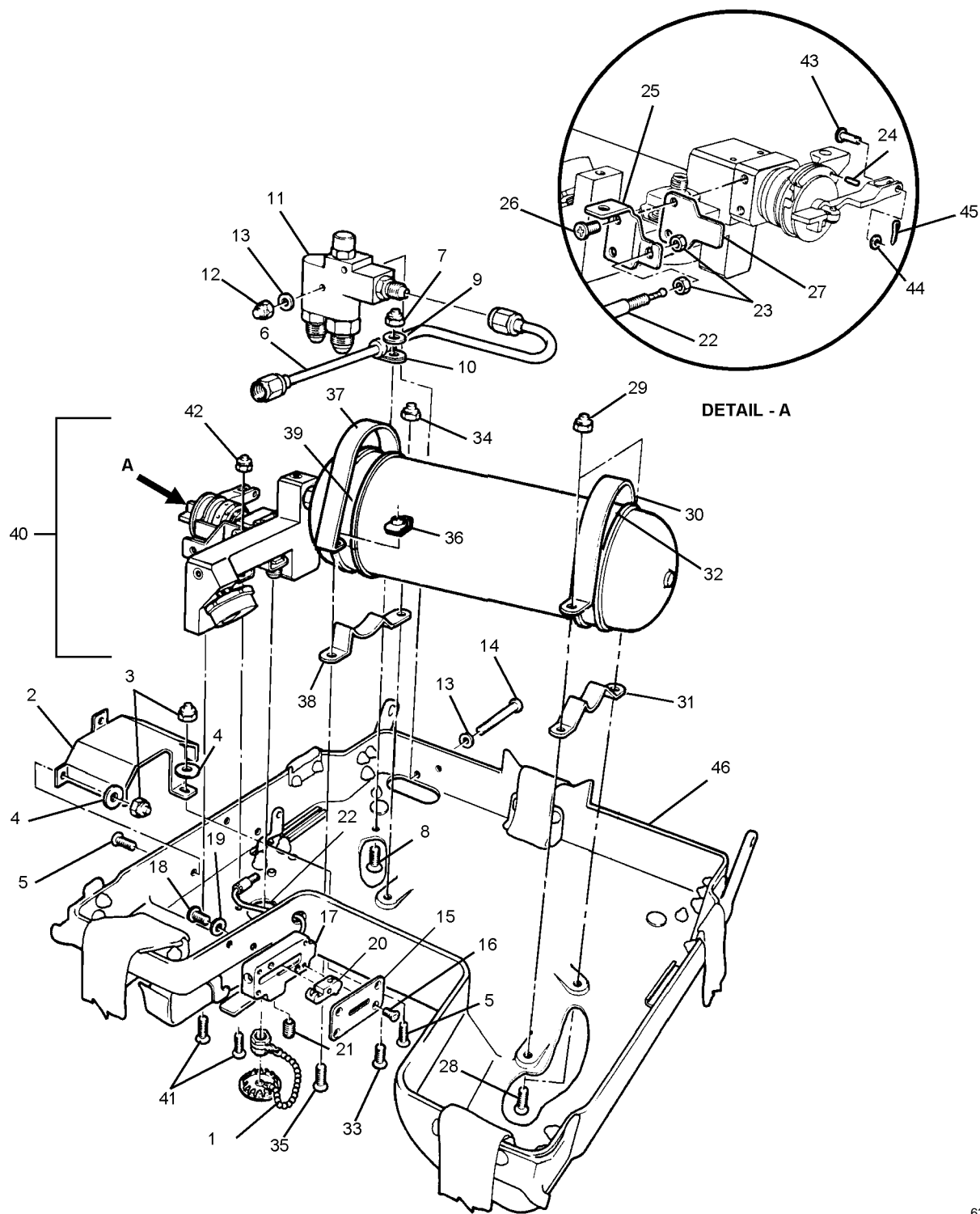
9-106. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.



009016

Figure 9-16. Seat Survival Kit Assembly (SKU-11/A)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
9-16	MBEU146511-1	SURVIVAL KIT ASSEMBLY, SKU-11/A	REF	A
	MBEU146511-2	SURVIVAL KIT ASSEMBLY, SKU-11/A	REF	B
	MBEU146554-1	SURVIVAL KIT ASSEMBLY (empty), SKU-11/A ... (Note 1)	REF	A
	MBEU146554-2	SURVIVAL KIT ASSEMBLY (empty), SKU-11/A ... (Note 1)	REF	B
	361E150-3	SURVIVAL KIT ASSEMBLY (empty), SKU-11/A ... (Note 1)	REF	A
	361E150-5	SURVIVAL KIT ASSEMBLY (empty), SKU-11/A ... (Note 1)	REF	B
	-1	361E200-3 . LID ASSEMBLY (See figure 9-17 for BKDN)	1	
	-2	325E620-1 . RETAINING LANYARD ASSEMBLY	1	
	-3	ZZ-R-001415 . ELASTIC TIE	4	
	-4	361E450-1 . RUCKSACK ASSEMBLY	1	
	-5	EW49004 . . SLIDE FASTENER, Rucksack	1	
	-6	361E560-1 . DEPLOYMENT HANDLE ASSEMBLY	1	
-7A	-7	361E671-9 . CUSHION ASSEMBLY (Note 2)	1	A
	-7A	366E672-1 . CUSHION ASSEMBLY (Notes 1 and 2)	1	B
	-8	MBEU130399 . NAMEPLATE	1	
		EW91062 . NAMEPLATE	1	
	-9	361D367-1 . LOWER COUPLING ASSEMBLY, Lanyard	1	
	-10	MS16562-192 . PIN, Spring, beacon actuating lanyard	1	
	-11	325D363-1 . CABLE TO LANYARD ASSEMBLY	1	
	-12	325C365-1 . LANYARD ASSEMBLY, Beacon actuator	1	
	Notes: 1. Cushion Assembly P/N 366E672-1 is to be used only in aircraft with ACC 646 incorporated.			
	2. Alternate rate dependent cushion foam has been authorized for use. See Fabrication, Section 9-7.			
	Usable on Codes: A – Before incorporation of ACC 646 B – After incorporation of ACC 646			



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Figure 9-17. Lid Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
9-17	361E200-3	LID ASSEMBLY, Survival Kit (See figure 9-16 for NHA)	1	
-1	361C280-1	. PLUG AND CAP ASSEMBLY	1	
-2	361D839-11	. COVER (ATTACHING PARTS)	1	
-3	EW42008	. NUT, Cap, self-locking	4	
	F22K1-62	. NUT, Cap, self-locking	4	
-4	AN960C6	. WASHER	4	
-5	MS24693-C28	. SCREW ---*---	4	
-6	325D355-1	. TUBE ASSEMBLY, Low pressure	1	
	361D355-1	. TUBE ASSEMBLY, Low pressure (ATTACHING PARTS)	1	
-7	EW42005	. NUT, Cap, self-locking	1	
	F22K1-82	. NUT, Cap, self-locking	1	
-8	MS24693-C50	. SCREW	1	
-9	AN960C8L	. WASHER	1	
-10	MS21919-DG4	. CLAMP ---*---	1	
-11	325D317-3	. MANIFOLD ASSEMBLY, Low pressure (See figure 9-20 for BKDN) (ATTACHING PARTS)	1	
-12	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-13	AN960C8L	. WASHER	4	
-14	MS27039-C0818	. SCREW ---*---	2	
-15	325C391-11	. COVER, Auto release (ATTACHING PARTS)	1	
-16	MS24693-C3	. SCREW ---*---	4	
-17	325D392-13	. HOUSING, Auto release (ATTACHING PARTS)	1	
-18	MS51958-63	. SCREW	2	
-19	AN960C10L	. WASHER ---*---	2	
-20	325D394-13	. SLIDE, Auto release	1	
-21	EW50021	. BALL PLUNGER	1	
-22	361E395-1	. CONDUIT ASSEMBLY (ATTACHING PARTS)	1	
-23	221B363-11	. NUT, Special	2	
-24	MS171432	. PIN, Spring ---*---	1	

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Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
8-17-25	325D838-11	. BRACKET, Conduit (ATTACHING PARTS)	1	
-26	MS51957-41	. SCREW ---*---	2	
-27	325D852-11	. SPRING, Cantilever	1	
	325E230-1	. CLAMP ASSEMBLY (ATTACHING PARTS)	1	
-28	MS24693-C273	. SCREW	2	
-29	EW42001	. NUT, Cap, self-locking	2	
	F22K1-02	. NUT, Cap, self-locking ---*---	2	
-30	325E230-11	. . CLAMP	1	
-31	325E230-13	. . STRAP	1	
-32	325C235-11	. . INSERT	1	
	325E240-1	. CLAMP ASSEMBLY (ATTACHING PARTS)	1	
-33	MS24693-C273	. SCREW	1	
-34	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-35	MS24693-C274	. SCREW ---*---	1	
-36	RM52LHA4972-4-3	. . NUT, Clip	1	
-37	325E240-11	. . CLAMP	1	
-38	325E240-13	. . STRAP	1	
-39	325C235-11	. . INSERT	1	
-40	361E300-3	. EMERGENCY OXYGEN ASSEMBLY (See figure 9-18 for BKDN) (ATTACHING PARTS)	1	
-41	MS24693-C272	. SCREW	2	
-42	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-43	MS20392-1C13	. PIN	1	
-44	AN960C4L	. WASHER	1	
-45	MS24665-1011	. PIN, Cotter ---*---	1	
-46	361E200-5	. LID SUB-ASSEMBLY (See figure 9-19 for BKDN)	1	

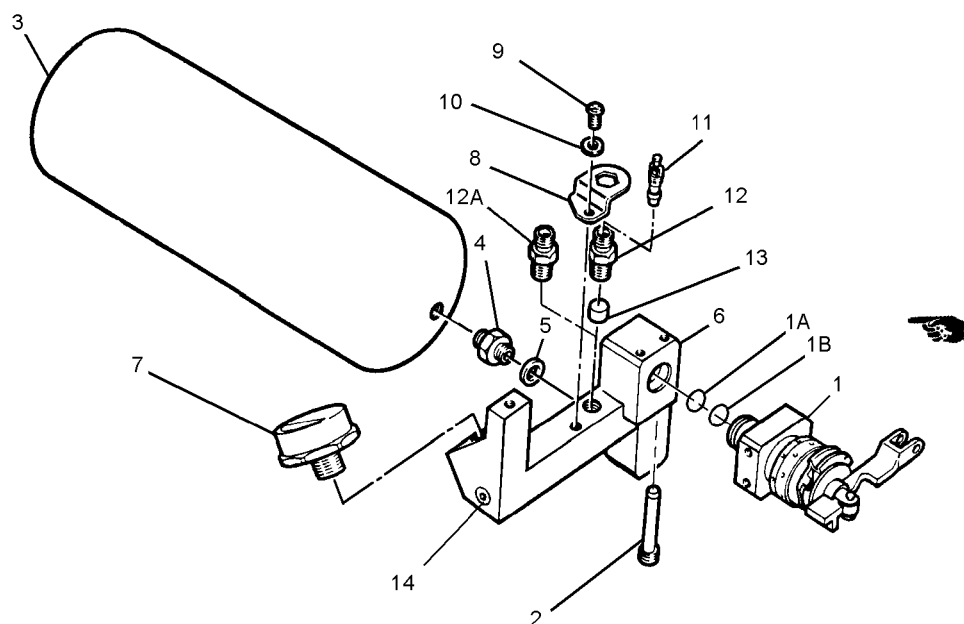


Figure 9-18. Emergency Oxygen Assembly

009018

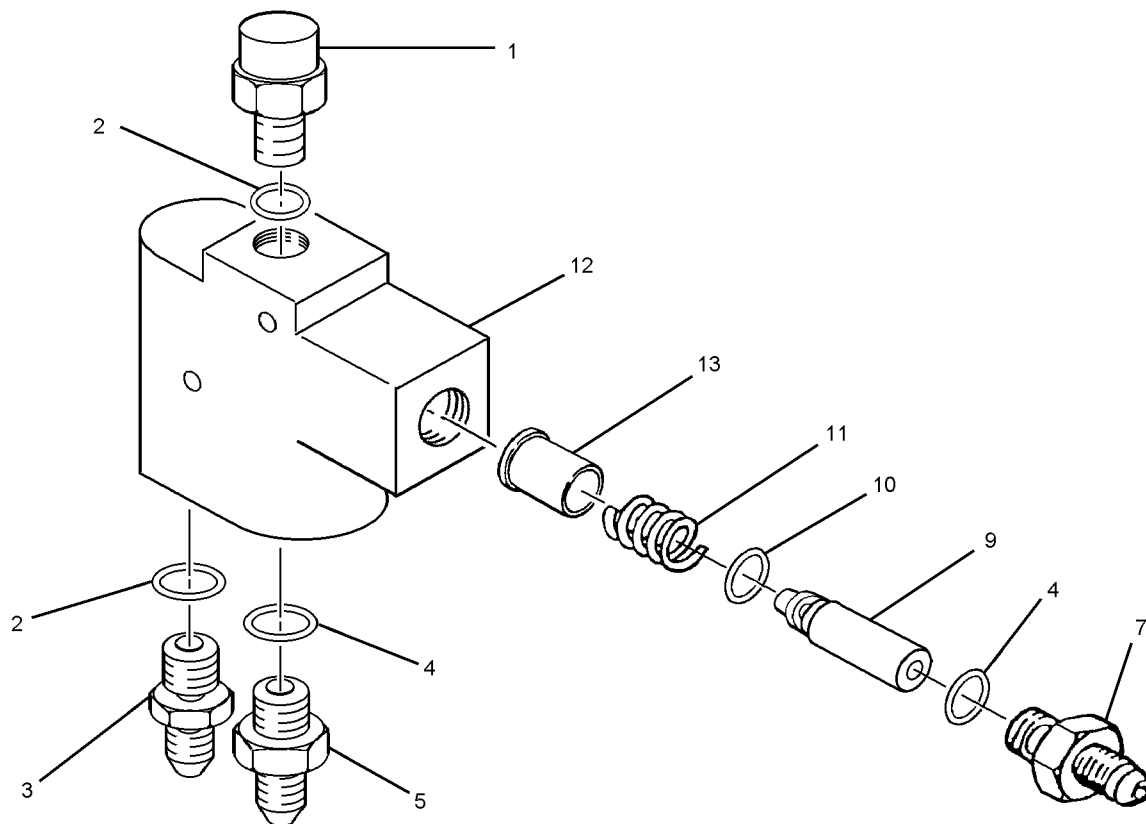
Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
9-18	361E300-1	EMERGENCY OXYGEN ASSEMBLY							REF	
		(See Figure 9-17 for NHA)								
-1	361E840-1	. PRESSURE REDUCER ASSEMBLY, Adj							1	
		(ATTACHING PARTS)								
-1A	NAS1611-014	. O-RING							1	
-1B	325D813-11	. RING, Backup							1	
-2	266C702-11	. PIN							2	
		---*---								
-3	235D500-3	. CYLINDER ASSEMBLY							1	
-4	266B830-11	. NIPPLE, Union							1	
-5	MS9068-011	. O-RING							1	
	361E300-5	. MANIFOLD ASSEMBLY							1	
-6	361J812-11	. . MANIFOLD ASSEMBLY, High pressure							1	
-7	EW68001	. . GAGE							1	
-8	266C870-13	. . BRACKET, Anti-rotation, filler valve							1	
		(ATTACHING PARTS)								
-9	MS51957-26	. . SCREW							1	
-10	AN960C6L	. . WASHER							1	
		---*---								
	325B380-1	. . VALVE ASSEMBLY, Filler							1	
-11	EW63001	. . . VALVE CORE							1	
-12	102C383-11	. . . BODY, Valve							1	
-12A	9120097-27	. . FILL VALVE (Note 1)							1	
-13	204B419-11	. . FILTER, Filler valve							1	
-14	MS27769-S1	. . PLUG							2	
Notes: 1. Fill Valve can be used as an alternate to replace Filler Valve Assembly P/N 325B380-1 or Valve Core P/N EW63001 and Valve Body P/N 102C383-11.										

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
9-19	361E200-5	LID SUB-ASSEMBLY (See figure 9-17 for NHA)	1	
-1	361D650-3	. STRAP ASSEMBLY, Forward (RH)	1	
-2	361D650-1	. STRAP ASSEMBLY, Forward (LH) (ATTACHING PARTS FOR EACH OF ITEMS 1 AND 2)	1	
-3	MS24693-C28	. SCREW	3	
-4	EW42008	. NUT	3	
	F22K1-62	. NUT ---*---	3	
-5	325D660-1	. STRAP ASSEMBLY, Aft (ATTACHING PARTS)	1	
-6	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-7	MS51957-47	. SCREW	2	
-8	AN960C8L	. WASHER ---*---	2	
-9	361D630-1	. STRAP ASSEMBLY, Side (ATTACHING PARTS)	2	
-10	EW42005	. NUT, Cap, self-locking	2	
	F22K1-82	. NUT, Cap, self-locking	2	
-11	MS24693-C50	. SCREW ---*---	2	
-12	325E350-1	. HANDLE ASSEMBLY, (Manual Actuation) (ATTACHING PARTS)	1	
-13	H14-3	. NUT, Self-locking	2	
-14	MS51958-65	. SCREW	2	
	AN960C10L	. WASHER ---*---	4	
-16	361C261-1	. PLUG ASSEMBLY	1	
-17	MS27983-3N	. STUD	4	
-18	MS27983-5N	. EYELET (ATTACHING PARTS FOR EACH OF ITEMS 17 AND 18)	4	
-19	EW41002	. SCREW	1	
-20	NAS620C-5L	. WASHER ---*---	1	
-21	325D680-1	. HARNESS ASSEMBLY, (Lapbelt), Adj (LH)	1	
-22	325D680-2	. HARNESS ASSEMBLY, (Lapbelt), Adj (RH) (ATTACHING PARTS FOR EACH OF ITEMS 21 AND 22)	1	
-23	MS51958-63	. SCREW	2	
-24	102C101-13	. BRACKET, Footman	1	
-25	EW42001	. NUT, Cap, self-locking	2	

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Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
9-19	F22K1-02	. NUT, Cap, self-locking	1	
-26	221B691-11	. PIN, Retention, harness	1	
-27	221B210-11	. ROLLER, Retention	1	
		---*---		
-28	184C100-1	. . ADJUSTER, Harness restraint	1	
-29	325E690-1	. . HARNESS ASSEMBLY (LH)	1	
-30	325E690-2	. . HARNESS ASSEMBLY (RH)	1	
-31	MBEU144299	. . KOC H CONNECTOR (Notes 2 and 3)	1	
	015-11365-1	. . KOC H CONNECTOR (Notes 2 and 3)	1	
-32	102C281-11	. BACKPLATE	2	
		(ATTACHING PARTS)		
-33	MS20470A3-5	. RIVET	3	
		---*---		
-34	253C645-11	. FITTING, Rear	2	
	253C645-13	. FITTING, Rear	2	
		(ATTACHING PARTS)		
-35	361B646-11	. PIN, Rear attachment	1	
-36	221B648-11	. WASHER, Anti-chafe	1	
-37	EW42003	. NUT, Cap, self-locking	1	
	F22K1-048	. NUT, Cap, self-locking	1	
-38	AN960C416L	. WASHER	1	
		---*---		
-39	325D640-11	. ATTACHMENT FITTING, Rear	2	
		(ATTACHING PARTS)		
-40	EW42001	. NUT, Cap, self-locking	2	
	F22K1-02	. NUT, Cap, self-locking	2	
-41	MS51958-63	. SCREW	2	
-42	AN960C10L	. WASHER	4	
-43	EW42001	. NUT, Cap, self-locking	1	
	F22K1-02	. NUT, Cap, self-locking	1	
-44	MS51958-63	. SCREW	1	
-45	AN960C10L	. WASHER	2	
		---*---		
-46	325E511-3	. BRACKET ASSEMBLY, Beacon	1	
		(ATTACHING PARTS)		
-47	MS20426A4-7	. RIVET	4	
-48	AN960C4L	. WASHER	4	
		---*---		
-49	325D513-11	. PAD, Rubber	2	
-50	361E222-11	. LID, MACHINED	1	
-51	325D212-12	. . PIVOT FITTING (RH)	1	

Figure and Index Number	Part Number	1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
9-19-52	325D212-11	. . PIVOT FITTING (LH) (ATTACHING PARTS FOR EACH OF ITEMS 51 AND 52)	1	
-53	EW42005	. . NUT, Cap, self-locking	8	
	F22K1-82	. . NUT, Cap, self-locking	8	
-54	MS27039-C0809	. . SCREW	2	
-55	AN960C8L	. . WASHER	6	
-56	MS24694-C6	. . SCREW	2	
		---*---		
-57	217B220-15	. . SHIM, LAMINATED	A/R	
	Notes: 1. Deleted. 2. When ordering P/N MBEU144299, P/N 015-11365-1 may be received. Both are acceptable and interchangeable in pairs only. 3. When replacing lapbelt assembly connectors P/N MBEU144299 or P/N 015-11365-1, apply sealing, locking, and retaining compound, MIL-S-22473, to shoulder screws.			



63-3086

Figure 9-20. Manifold Assembly, Outlet

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
9-20	325D317-3	MANIFOLD ASSEMBLY, OUTLET							REF	
		(See figure 9-17 for NHA)								
-1	EW63004	.							1	
	P103-673	.							1	
	Z02RV04-4	.							1	
-2	MS9068-012	.							2	
-3	325D336-11	.							1	
-4	MS9068-013	.							2	
-5	325C335-11	.							1	
-6	Deleted	.								
-7	325C334-11	.							1	
-8	Deleted	.								
-9	325C331-11	.							1	
-10	MS9068-010	.							1	
-11	295B333-11	.							1	
-12	325D319-13	.							1	
-13	325C320-11	.							1	
Notes:		1. Torque to a value of 70 ± 5 in-lb.								
		2. Apply a light film of Krytox 240 AZ lubricant, MIL-G-27617, prior to assembly.								

NUMERICAL INDEX

Part Number	Figure and Index Number	SM&R Code
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Part Number	Figure and Index Number	SM&R Code
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AN960C10L	9-17-19	PAOZZ
	9-19-15	PAOZZ
	9-19-42	PAOZZ
	9-19-45	PAOZZ
AN960C416L	9-19-38	PAGZZ
AN960C4L	9-17-44	PAGZZ
	9-19-48	PAGZZ
AN960C6	9-17-4	PAGZZ
AN960C6L	9-18-10	PAGZZ
AN960C8L	9-17-9	PAGZZ
	9-17-13	PAGZZ
	9-19-8	PAGZZ
	9-19-55	PAGZZ
EW41002	9-19-19	PAGZZ
EW42001	9-17-29	PAGZZ
	9-17-34	PAGZZ
	9-17-42	PAGZZ
EW42001	9-19-25	PAGZZ
	9-19-40	PAGZZ
	9-19-43	PAGZZ
EW42003	9-19-37	PAGZZ
EW42005	9-17-7	PAGZZ
	9-17-12	PAGZZ
	9-19-6	PAGZZ
	9-19-10	PAGZZ
	9-19-53	PAGZZ
EW42008	9-17-3	PAGZZ
	9-19-4	PAGZZ
EW49004	9-16-5	PAGGG
EW50021	9-17-21	PAGZZ
EW63001	9-18-11	PAGZZ
EW63004	9-20-1	
EW68001	9-18-7	PAGZZ
EW91062	9-16-8	MDGZZ
F22K1-02	9-17-29	PAGZZ
	9-17-34	PAGZZ
	9-17-42	PAGZZ
	9-19-25	PAGZZ
	9-19-40	PAGZZ
	9-19-43	PAGZZ
F22K1-048	9-19-37	PAGZZ
F22K1-62	9-17-3	PAGZZ
	9-19-4	PAGZZ
F22K1-82	9-17-7	PAGZZ
	9-17-12	PAGZZ
	9-19-6	PAGZZ

	9-19-10	PAGZZ
F22K1-82	9-19-53	PAGZZ
H14-3	9-19-13	PAGZZ
MBEU130399	9-16-8	MDGZZ
MBEU144299	9-19-31	PAGZZ
MBEU146511-1	9-16	AGOOG
MBEU146511-2	9-16	AGOOG
MBEU146554-1	9-16	PAGGG
MBEU146554-2	9-16	PAGGG
MS16562-192	9-16-10	PAGZZ
MS171432	9-17-24	PAGZZ
MS20392-1C13	9-17-43	PAGZZ
MS20426A4-7	9-19-47	PAGZZ
MS20470A3-5	9-19-33	PAGZZ
MS21919-DG4	9-17-10	PAGZZ
MS24665-1011	9-17-45	PAGZZ
MS24693-C272	9-17-41	PAGZZ
MS24693-C273	9-17-28	PAGZZ
	9-17-33	PAGZZ
MS24693-C274	9-17-35	PAGZZ
MS24693-C28	9-17-5	PAGZZ
	9-19-3	PAGZZ
MS24693-C3	9-17-16	PAGZZ
MS24693-C50	9-17-8	PAGZZ
	9-19-11	PAGZZ
MS24694-C6	9-19-56	PAGZZ
MS27039-C0809	9-19-54	PAGZZ
MS27039-C0818	9-17-14	PAGZZ
MS27769-S1	9-18-14	PAGZZ
MS27983-3N	9-19-17	PAGZZ
MS27983-5N	9-19-18	PAGZZ
MS51957-26	9-18-9	PAGZZ
MS51957-41	9-17-26	PAGZZ
MS51957-47	9-19-7	PAGZZ
MS51958-63	9-17-18	PAGZZ
	9-19-23	PAGZZ
	9-19-41	PAGZZ
	9-19-44	PAGZZ
MS51958-65	9-19-14	PAGZZ
MS9068-010	9-20-10	PAGZZ
MS9068-011	9-18-5	PAGZZ
MS9068-012	9-20-2	PAGZZ
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CHAPTER 10

SKU-12/A SEAT SURVIVAL KIT

Section 10-1. Description

10-1. GENERAL.

10-2. Seat Survival Kit, SKU-12/A, P/N 8510004, (figures 10-1 and 10-2) is designed for use with the MK-GRU-7A and MK-GRUEA-7 ejection systems. The kit functions as a seat for the aircrewman and container for an emergency oxygen system, life-raft, and survival items. The survival kits, less Koch fittings, seat and thigh support cushions, are manufactured by American Safety Flight Systems, Inc. (CAGE 31441). The SKU-12/A assembly is supplied by American Safety Flight Systems.

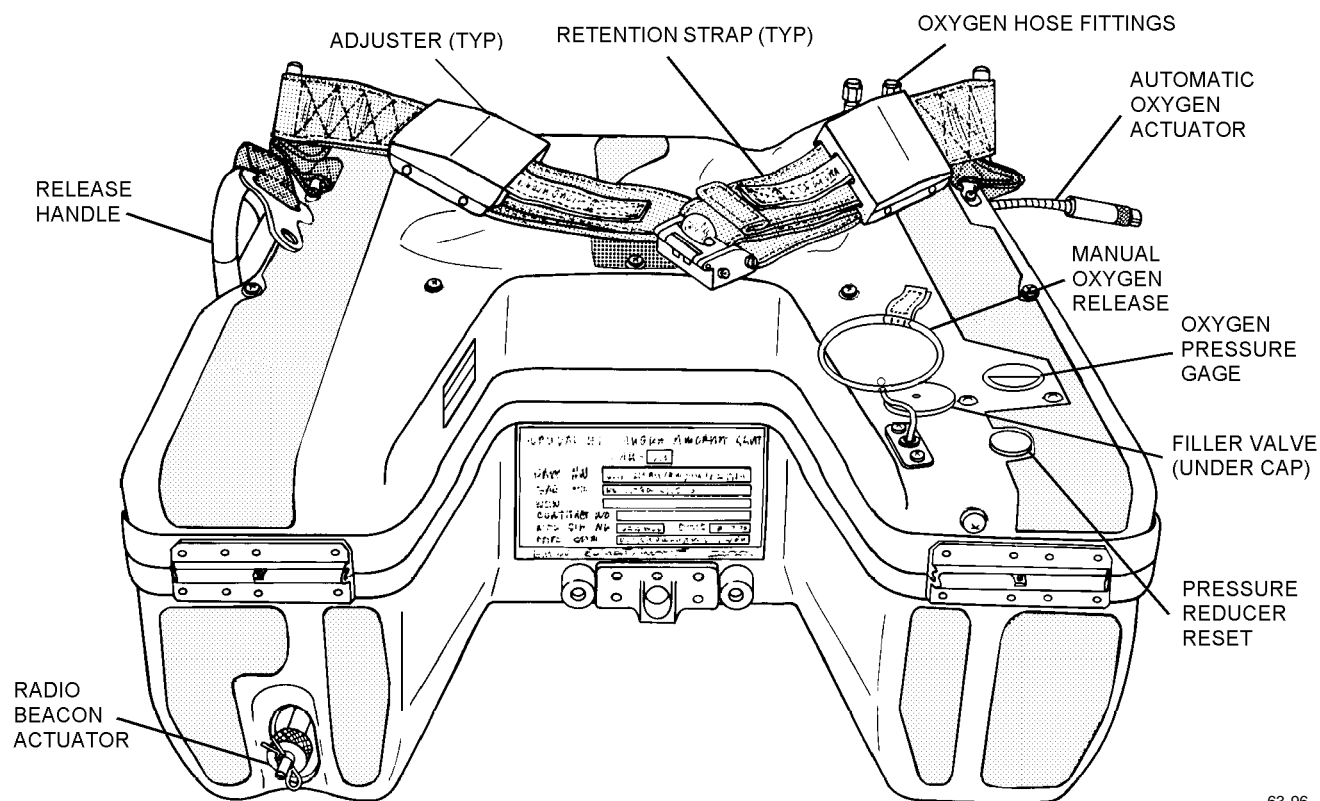
10-3. CONFIGURATION.

10-4. The SKU-12/A is a rigid-type container fabricated of molded fiberglass. It is designed to contain equipment and material necessary to enhance survival of the aircrewman after emergency separation from the aircraft. The SKU-12/A fits into the seat bucket, and is securely attached by lock receptacles at the lower aft corners of the seat bucket and negative-g retaining pin receptacle at center forward on the lower container. During normal operation the kit provides support and comfort for the aircrewman, and a routing for emergency oxygen and communications. If failure occurs in the aircraft oxygen supply, or in case of high altitude or underwater ejection, the kit contains a 50 cubic inch, 1800 psi, emergency oxygen cylinder that provides an emergency supply of oxygen for approximately 20 minutes. The emergency oxygen pressure gage is visible through an opening in the left thigh support of the container when the thigh support cushion is removed. The lid of the container is fastened to a metal valence and contains the latches and oxygen equipment. The lower container contains the latching mechanism, life-raft, survival equipment, and

an emergency radio beacon. The radio beacon actuator lanyard, located in the right front corner of the lower container, is attached to the aircraft and is actuated when the aircrewman ejects. The two halves of the kit, which are securely fastened together by a lock and latch mechanism, can be quickly separated by the aircrewman by actuation of a kit release handle when access to his life-raft and survival equipment is desired. The ventilated seat cushion and non-ventilated thigh support cushions are secured to the container lid and front section of the lower container by hook and pile tape. A carrying handle is provided at the rear of the kit.

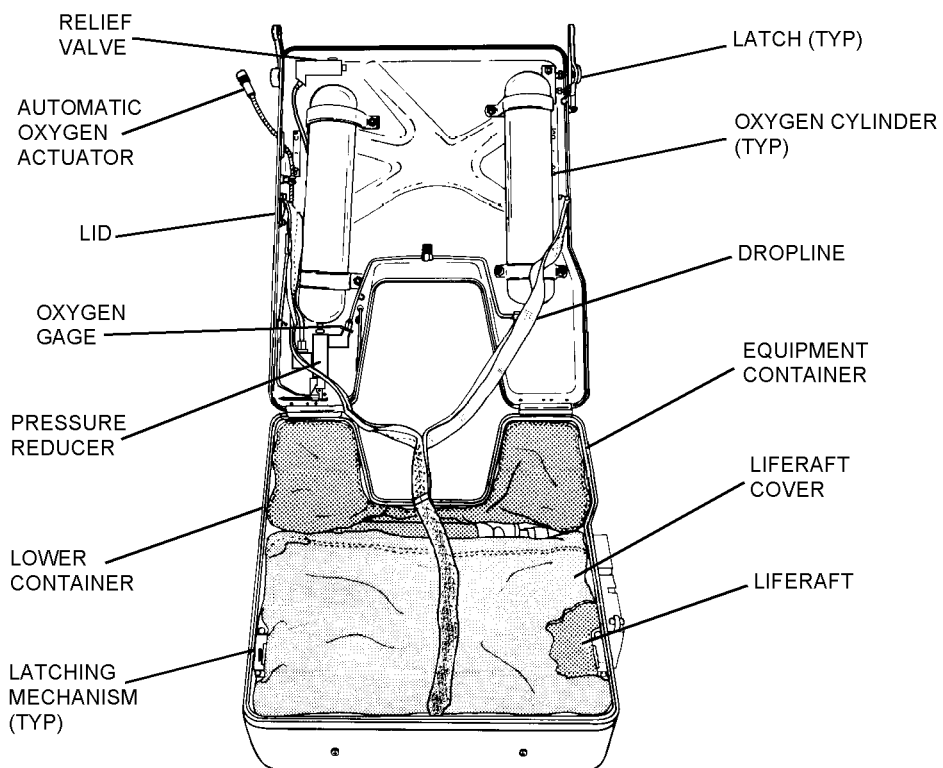
10-5. MK-GRUEA-7 and MK-GRU-7A (BUNO 159631 and subsequent). These ejection seats are equipped with one personnel service disconnect block secured to the left side of the ejection seat bucket. The personnel services connected to the block assembly consist of oxygen and communications, anti-g, vent air and an emergency oxygen automatic release cable connection. The oxygen, vent air and anti-g supplies flow directly through the block assembly to the aircrewman's anti-g garment and seat quick-disconnects.

10-6. MK-GRU-7A (BUNO 157980 thru 159630). The MK-GRU-7A ejection seat is equipped with two personnel service disconnect blocks. Personnel services connected to one block are the oxygen and communications line, an emergency oxygen automatic release cable, and a block release lanyard. The other block provides connection for the anti-g and vent air hoses and a block release lanyard. The vent air hose may be connected to the seat, a pressure suit, or an anti-exposure suit. Both blocks are secured to the left side of the ejection seat bucket.



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Figure 10-1. SKU-12/A Closed



63-97

Figure 10-2. SKU-12/A Open

10-7. SUBASSEMBLIES. The major subassemblies of the SKU-12/A are as follows:

1. Emergency Oxygen System
2. Upper and Lower Container
3. Handle Release Mechanism
4. Dropline Assembly
5. Cushions
6. Survival Equipment Container
7. Hose Assembly
8. Harness Assembly
9. Liferaft Assembly

10-8. REFERENCE NUMBERS, ITEMS, AND SUPPLY DATA.

10-9. Figures 10-22 through 10-31 contain information on each assembly, subassembly, and component of the SKU-12/A. The figure and index number, reference or part number, description, and units per assembly are provided.

10-10. APPLICATION.

10-11. The SKU-12/A is a part of the survival equipment used by aircrewmembers aboard aircraft listed in table 10-1.

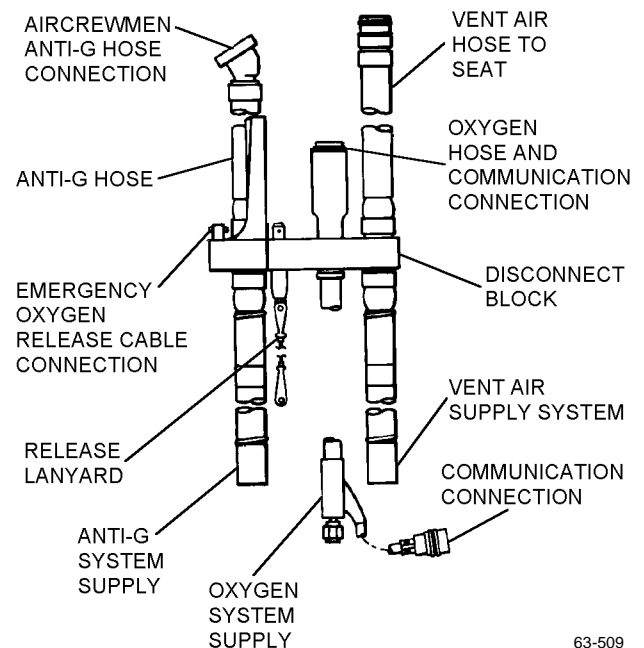
Table 10-1. SKU-12/A Application

Escape System	MK-GRUEA-7	MK-GRU-7A
Aircraft	EA-6B	F-14A

10-12. FUNCTION.

10-13. When the aircrewman ejects from the aircraft, the following series of events occur:

1. MK-GRUEA-7 and MK-GRU-7A (BUNO159631 and subsequent). As the seat rises, the personnel services block (figure 10-3) is disengaged from the seat by a lanyard secured to the cockpit deck. The emergency oxygen lanyard, which is attached to the block, actuates the emergency oxygen system. The lanyard then separates from the survival kit and remains with the block. The oxygen and communications, anti-g, and vent air hoses then separate from the block in sequence, depending on the slack in each hose. During descent, while in the seat or after separation from the seat, the aircrewman is provided with approximately 20 minutes emergency oxygen. The AN/URT-33A Radio Beacon, actuated by a lanyard attached to the cockpit deck, transmits a continuous signal during descent.



63-509

Figure 10-3. Personnel Services Disconnect MK-GRUEA-7 and MK-GRU-7A (BUNO159631 and Subsequent)

2. MK-GRU-7A (BUNO157980 thru 159630). The personnel service blocks (figure 10-4) are disengaged from the seat by two release lanyards which are secured to the deck of the aircraft. As the seat rises, the aircrewman's oxygen hose is disconnected from the oxygen-communications block. Simultaneously, the emergency oxygen system, located in the survival kit, is actuated by an automatic actuation lanyard connected to the oxygen-communications block. The lanyard breaks away from the survival kit and remains connected to the block, which remains with the aircraft. The radio beacon, also activated by a lanyard attached to the cockpit deck provides a continuous signal during descent. The anti-g/vent air block is divided into three parts; lower block, intermediate block and upper block. Upon ejection, the lower block disconnects from the intermediate block by a lanyard attached to the cockpit deck. When seat-man separation occurs, the upper block remains with the aircrewman while the intermediate block remains with the seat.

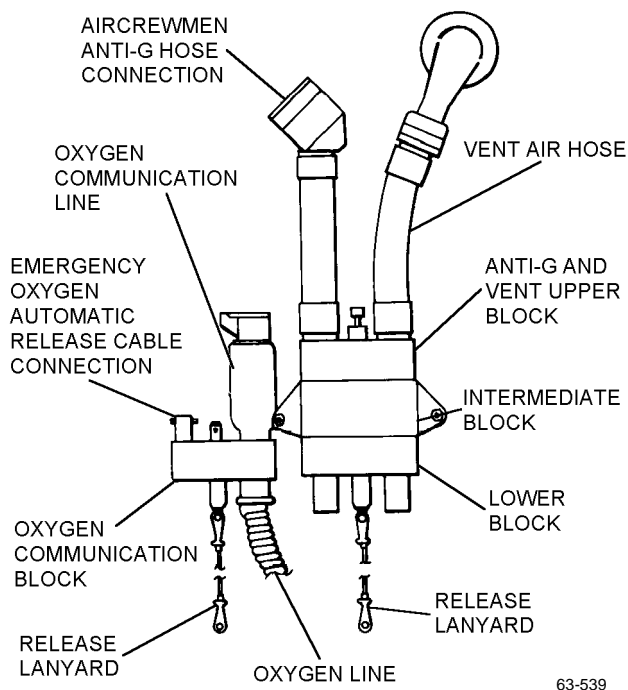


Figure 10-4. Personnel Services Block MK-GRU-7A (BUNO157980 thru 159630)

NOTE

If automatic actuation of the emergency oxygen system fails, the system can be actuated by pulling the manual oxygen release (figure 10-5).

3. When kit deployment is desired, the aircrewman pulls the kit release handle on the right side of the seat. As the kit separates and the lower container falls away, the dropline assembly connecting the two halves of the kit pulls out of the boots and the liferaft is extracted from the lower container. When the lower container reaches the end of its free fall and the dropline becomes taut, the resulting snubbing action automatically actuates the CO₂ inflation assembly and the raft is inflated. After entering the water, the aircrewman boards the raft and retrieves the lower half of the kit containing the survival equipment. The survival equipment is stored in a U-shaped container which is attached to the dropline by a length of nylon cord. The aircrewman may, if desired, cut this nylon cord and remove the U-shaped container from the lower half of the kit. The U-shaped container is equipped with a retention lanyard and snaphook. The lanyard is tied to the thong on the right slide fastener of the container. The aircrewman must fasten the snaphook on the other end of the lanyard to his survival vest to ensure retention of the container and all of his survival equipment (figure 10-8).

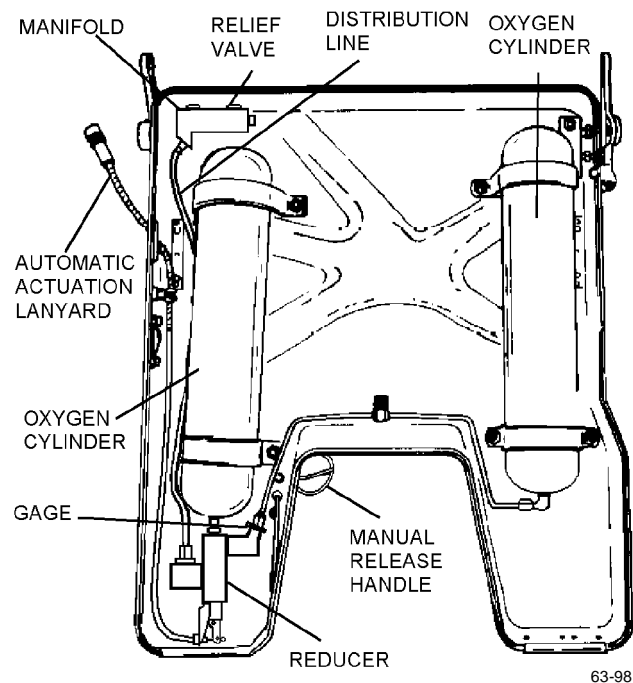


Figure 10-5. SKU-12/A Emergency Oxygen System

Section 10-2. Modification

10-14. GENERAL.

10-15. [Table 10-2](#) lists all modifications to the SKU-12/A Seat Survival Kit.

Table 10-2. SKU-12/A Directives

Description of Modification	Application	Modification Code
None		

Section 10-3. Rigging and Packing

10-16. GENERAL.

10-17. Unless operational requirements demand otherwise, rigging and packing of the SKU-12/A shall be accomplished at the Intermediate Level of maintenance. All rigging and packing shall be performed only by qualified personnel every 448 days for F-14 aircraft or every 365 days for EA-6B aircraft.

NOTE

Quality assurance steps are provided for critical operations. When a step is underlined, the Aircrew Survival Equipmentman shall perform the operation then have performance verified by Quality Assurance (QA).

10-18. RIGGING AND PACKING PROCEDURES.

10-19. Rigging and packing of the SKU-12/A is accomplished in eight separate operations as follows:

1. Preliminary Procedures
2. Radio Beacon Rigging and Installation
3. Survival Equipment Binding
4. Survival Equipment Packing
5. Stowing Dropline
6. Liferaft Preparation, Folding, Rigging and Packing
7. Closing Container

10-20. PRELIMINARY PROCEDURES. The following preliminary procedures shall be accomplished prior to rigging and packing the SKU-12/A.

1. Ensure SKU-12/A and components have been inspected in accordance with [Section 10-5](#).
2. Inspect oxygen hose assemblies in accordance with NAVAIR 13-1-6.3-1.
3. Remove upper container assembly from lower container assembly.

4. Remove liferaft cover. Inspect liferaft cover for damaged fabric and loose, broken, or frayed stitching.

WARNING

CO₂ bottle is under pressure. Use caution when disconnecting CO₂ bottle from liferaft. Do not loosen or attempt to remove inflation valve assembly from CO₂ cylinder.

CAUTION

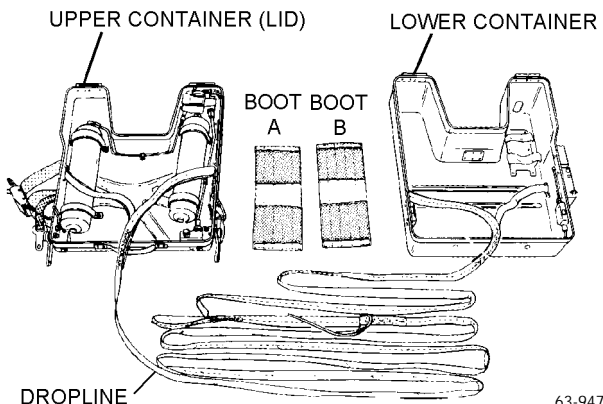
Ensure actuating line is disconnected from CO₂ cylinder inflation valve before removal of CO₂ cylinder from liferaft.

5. Disconnect CO₂ cylinder from liferaft as follows:

- a. Carefully remove liferaft from container
- b. Disconnect actuation line from CO₂ cylinder
- c. Disconnect CO₂ cylinder from liferaft
- d. Remove large loop of drop line from CO₂ cylinders neck
- e. Ensure anti-chafing disc is installed. Reconnect CO₂ cylinder to liferaft finger tight. If functional test is required torque valve 80 to 90 in-lbs.

6. Ensure liferaft and CO₂ cylinder have been inspected in accordance with NAVAIR 13-1-6.1-1.

7. Remove dropline from boots and align kit components on a clean flat surface as shown.



63-947

Step 7 - Para 10-20

NOTE

A newly fabricated or procured dropline assembly will have a final dimension of 26 feet, 4 inches \pm 2 inches. However, a dropline assembly is subjected to a certain amount of stretch during its stowing process, and shrinkage during its cleaning process, therefore a tolerance of \pm 12 inches is acceptable for an older dropline assembly.

8. Inspect dropline to ensure proper attachment to upper and lower containers. Also ensure dropline length is 26 feet, 4 inches \pm 12 inches.

9. Ensure survival items have been inspected in accordance with NAVAIR 13-1-6.5.

NOTE

Ensure battery service life does not expire prior to the next scheduled inspection cycle of the assembly in which the radio set is installed. Refer to NAVAIR 16-30URT33-1 for battery service life.

10. Remove radio beacon set from kit and ensure that the battery and radio beacon have been inspected in accordance with NAVAIR 16-30URT33-1.

11. Check seat pan and cushion assembly for cuts, tears, and abrasions, and hardware for security of attachment, corrosion, damage, wear, and ease of operation.

10-21. RADIO BEACON RIGGING AND INSTALLATION. To rig and install the AN/URT-33A radio beacon, proceed as follows:

Materials Required

Quantity	Description	Reference Number
3	Rubber Bands (Type I)	MIL-R-1832 NIIN 00-568-0323
1	Actuator Indicator Assembly	CL204D3-11 (CAGE 80206)
As Required	Thread, Nylon, Type II, Class A, Size E	V-T-295 NIIN 00-244-0609 or equivalent
1	Beacon Set, Radio, AN/URT-33A	MIL-B-38401A
1	Pin, Cotter, Hairpin	LHCOTC NIIN 00-956-5635 (CAGE 96652)

Support Equipment Required

Quantity	Description	Reference Number
1	T-wrench	Fabricate IAW paragraph 10-72

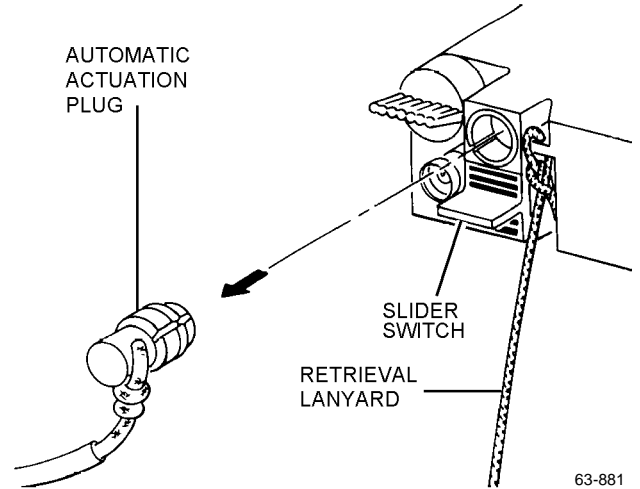
NOTE

Ensure that slider switch on radio beacon is OFF. Slider switch is in OFF position when word ON is not visible on radio beacon housing.

Determine if beacon has been modified in accordance with [steps 1 through 3](#) before proceeding to [step 4](#).

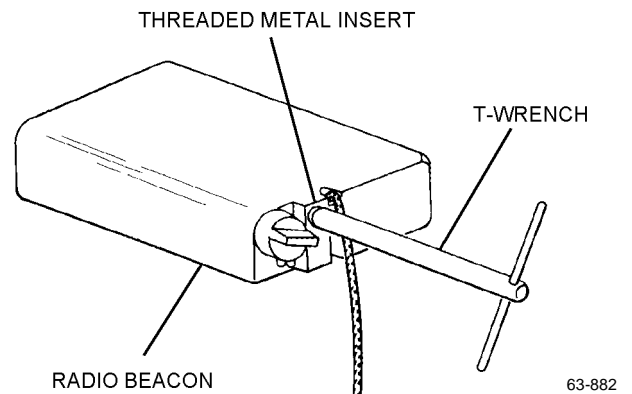
Retain automatic actuation plug with lanyard and metal insert in shop for possible future use.

1. Remove automatic actuation plug and lanyard from radio beacon assembly.



Step 1 - Para 10-21

2. Remove threaded metal insert from beacon using T-wrench.

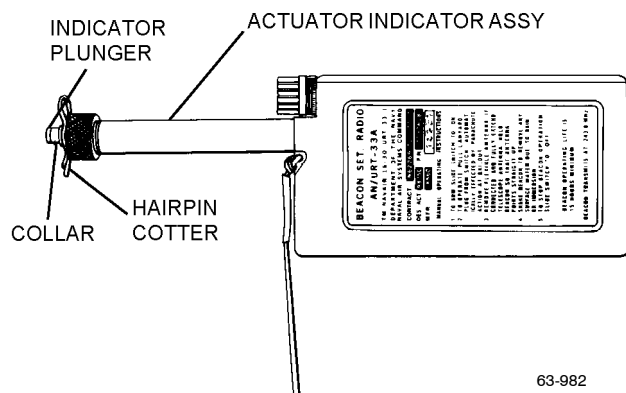


Step 2 - Para 10-21

NOTE

If T-wrench is not available, fabricate in accordance with paragraph 10-72.

3. Screw actuator indicator (P/N CL204D3-11) into beacon.



63-982

Step 3 - Para 10-21

4. Hold indicator plunger depressed and insert hairpin cotter. Ensure that indicator plunger is retained in pressed position.

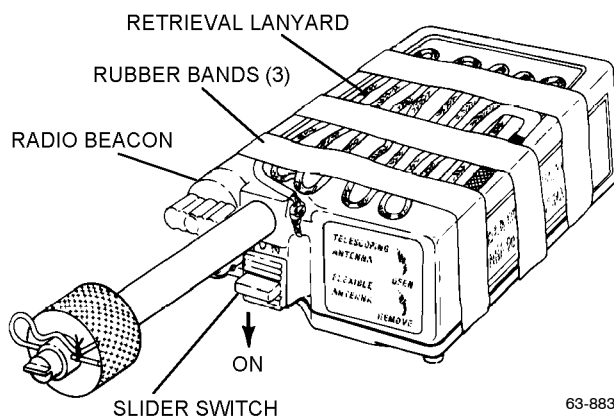
5. Ensure hairpin in cotter and collar are free to rotate 360° without binding. If hairpin cotter and collar are free, proceed to step 6. If hairpin cotter and collar do not rotate freely, refer to NAVAIR 16-30URT33-1.

6. Safety-tie open end of actuator indicator hairpin cotter by applying single-loop mousing, using size E nylon thread. Secure mousing loop with square knot. Cut off excess approximately 1/8 inch from knot.

NOTE

Do not release indicator plunger with beacon slider switch in ON (armed) position. Beacon will transmit an inaudible emergency distress signal.

7. Accordion-fold retrieval lanyard on top of radio beacon and secure with three rubber bands. Ensure retrieval lanyard is attached at both ends with a bow-line knot, with an overhand knot tied at the tag end.



63-883

Step 7 - Para 10-21

8. Connect flexible wire antenna to beacon.

9. Place ON/OFF slider switch in ON position and install beacon assembly in bracket in lower container. Position beacon in bracket with indicator plunger, collar, and hairpin cotter extending through appropriate hole in right front of container. Check to ensure slider switch is in ON position then secure beacon with hook and pile tape fasteners.

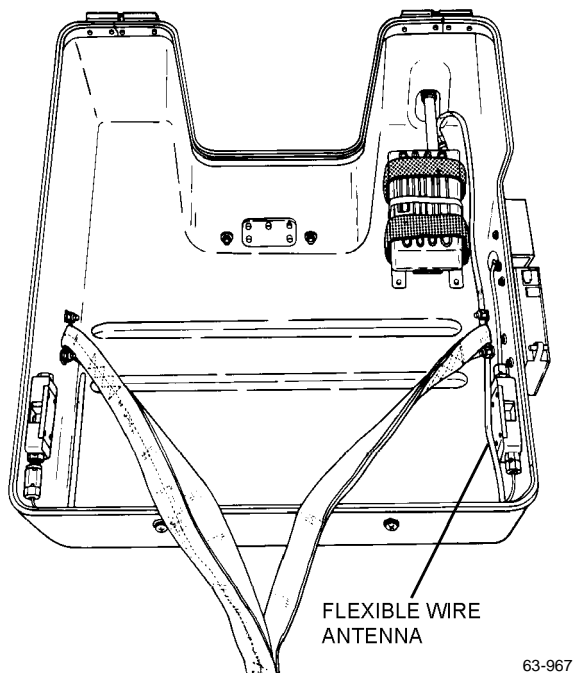
Table 10-3. Survival Kit Items (Note 1)

Item Name	Quantity	Reference Number
Cord, (Nylon), Fibrous Type I	50 ft	NAVAIR 13-1-6.5
Signal, (Flare), Smoke and Illumination, MK-13 MOD 0 or MK-124 MOD 0 (Note 2)	2	NAVAIR 13-1-6.5
Sea (Dye) Marker, Fluorescent	2	NAVAIR 13-1-6.5
Sponge, (Bailing), Cellulose Type II, Class 2	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet #1 (Medical) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31/P Survival Kit, Packet #2 (General) (Note 3)	1	NAVAIR 13-1-6.5
SRU-31A/P (Note 7)	Optional	NAVAIR 13-1-6.5
Water, Drinking, Canned (Note 4)	1	NAVAIR 13-1-6.5
Bag, Drinking Water (50 ml) (Note 5) or	6	NAVAIR 13-1-6.5
Water, Drinking, Emergency (118 ml) (Note 5)	3	NAVAIR 13-1-6.5
Opener, Can, Hand (Note 6)	1	NAVAIR 13-1-6.5
Ground/Air Emergency Code Card	1	NAVAIR 13-1-6.5
Blanket, (Combat) Casualty, 3 oz	1	NAVAIR 13-1-6.5
Envelope, Packing List	1	NAVAIR 13-1-6.5
Beacon Set, Radio	1	NAVAIR 13-1-6.5
Liferaft, Inflatable	1	NAVAIR 13-1-6.1-1

Notes:

1. The items listed are typical and are considered mandatory for inclusion in the survival kit container. Deviation from the listed items may be required by certain Functional Air Wings (FUNCWINGS), Carrier Air Wings (CVW), COMFAIRS, or Marine Air Wings (MAW). Requests for deviations must be forwarded to and authorized by TYCOMS and with information to Fleet Support Team (FST) at NAVAIRWARCENACDIV Patuxent River MD via Naval Message. When optional items are substituted, particular attention must be paid to the binding sequence so that physical sizes and binding order of substituted items remain approximately the same. That portion of an item name in parentheses is a common-use name or container size and is not intended for supply requisition purposes.
2. MK-13 MOD 0 shall be used until stocks are depleted. MK-124 MOD 0 will replace MK-13 MOD 0 as stocks become available.
3. SRU-31/P complete kits including Medical Packet (#1) and General Packet (#2) may be ordered; instructions for packing and ordering these kits are found in NAVAIR 13-1-6.5.
4. When the supply for emergency canned water has been exhausted use bagged drinking water.
5. If Bag, Drinking Water (50 ml), is not available, substitute Water, Drinking, Emergency (118 ml), in accordance with NAVAIR 13-1-6.5.
6. If canned water is not being used there is no need to pack can opener.
7. The selection of SRU-31/P or SRU-31A/P Individual Aircrewmember's Survival Kit will be at the discretion of the TYPE COMMANDER depending on mission requirements, reference NAVAIR 13-1-6.5, Chapter 9, for detailed information.

10. Route flexible wire antenna aft along right side of lower container.



Step 10 - Para 10-21

10-22. SURVIVAL EQUIPMENT BINDING. Ensure all survival items have been inspected in accordance with NAVAIR 13-1-6.5 before binding. To bind survival items, proceed as follows ([table 10-3](#)).

NOTE

To prevent loss of survival items, tie items individually and then tie to 140-inch length of nylon cord. Nylon cord of prescribed lengths required for this procedure shall be seared at both ends to prevent fraying (table 10-4).

**Table 10-4. Nylon Cord Lengths
Required for Binding**

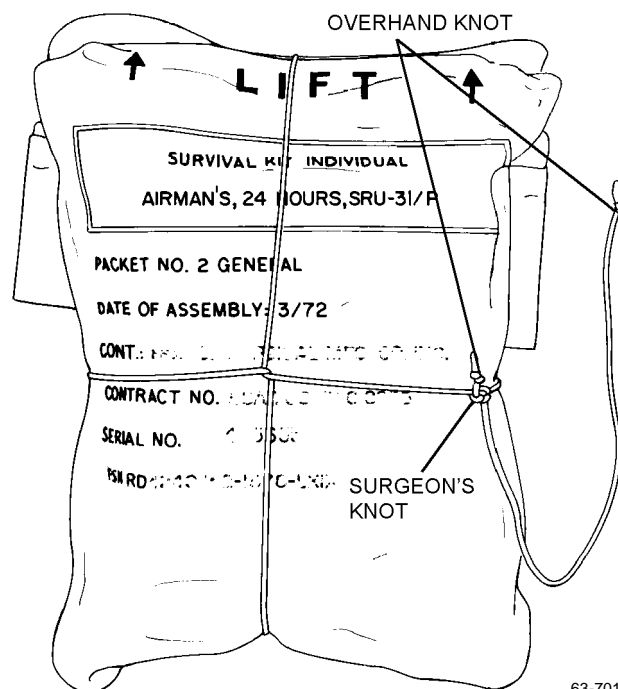
Length (Inches)	Number Required
140	1
12 (Note 1)	5
30	1
36	2
40	3
50 (Note 1)	1

Notes: 1. When using bagged water in place of canned emergency water, the number of required 12 inch lengths will be a total of 6 and the required 50 inch lengths will be 0.

NOTE

SRU-31/P Packet #1 (Medical) shall be folded approximately in half prior to binding.

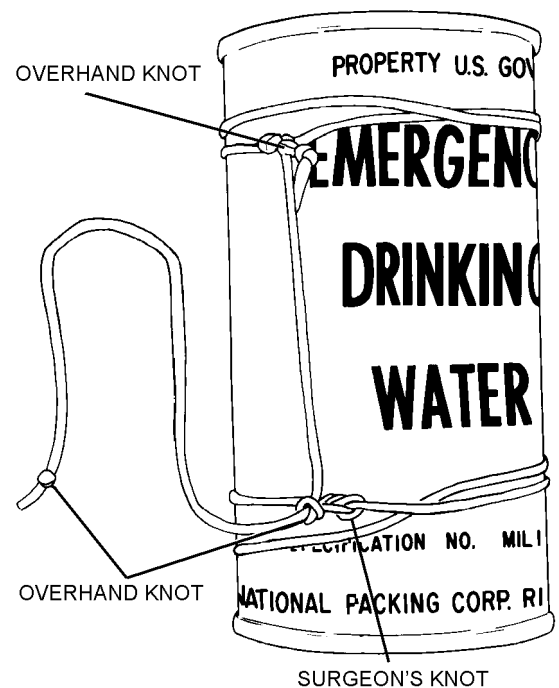
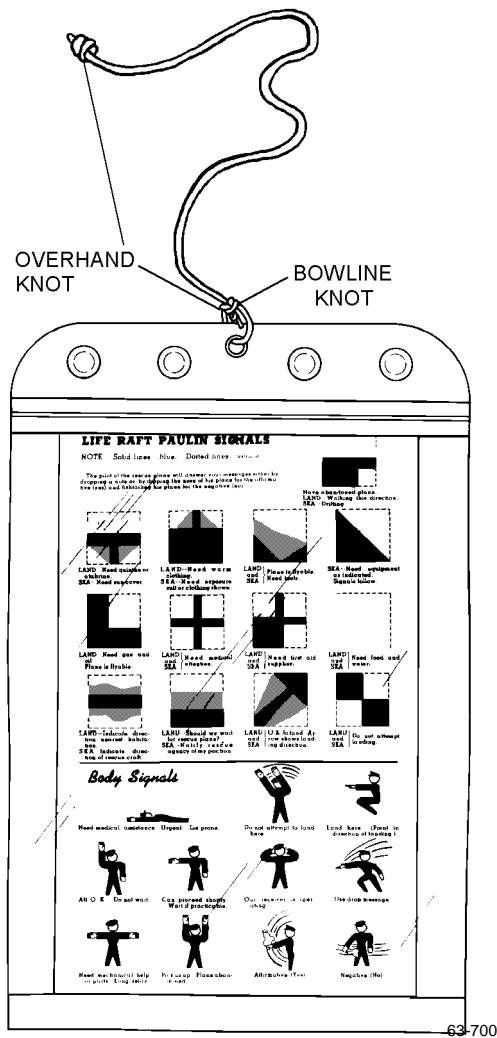
1. Tie an overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around packet #1 of the SRU-31/P Survival Kit. Rotate cords 1/4 turn and wrap cord around opposite sides of packet. Tie with a surgeon's knot. Ensure cord-end overhand knot is positioned snugly against surgeon's knot. Tie packet #2 in same manner, except do not fold.



Step 1 - Para 10-22

2. Insert Ground/Air Emergency Code card into a clear vinyl envelope (MIL-B-117), and close sealing fastener. Tie an overhand knot in each end of a 12-inch length of nylon cord, and pass knot through center hole in envelope. Tie a bowline with a 1-inch loop. Ensure cord-end overhand knot is snugly against bowline knot.

3. Tie an overhand knot in each end of a 50-inch length of nylon cord. Wrap one end of cord two overlapping turns around end of canned water and tie with surgeon's knot positioned snugly against cord-end overhand knot. Route cord to opposite end of can. Wrap cord two overlapping turns around can and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Cord between end-ties shall be drawn tight.



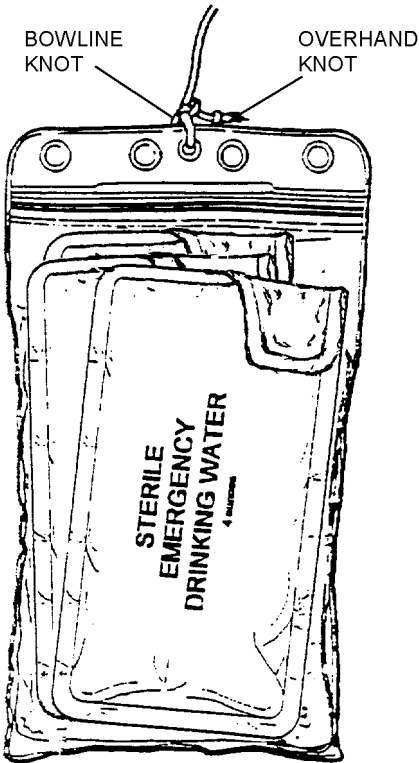
Step 2 - Para 10-22

Step 3 - Para 10-22

NOTE

Replacement rate of exhausted canned water shall be in accordance with the NAV-AIR 13-1-6.5 manual. Bagged emergency drinking water shall be stowed in the same order as canned emergency water. The bags of water shall be stowed in a flat configuration.

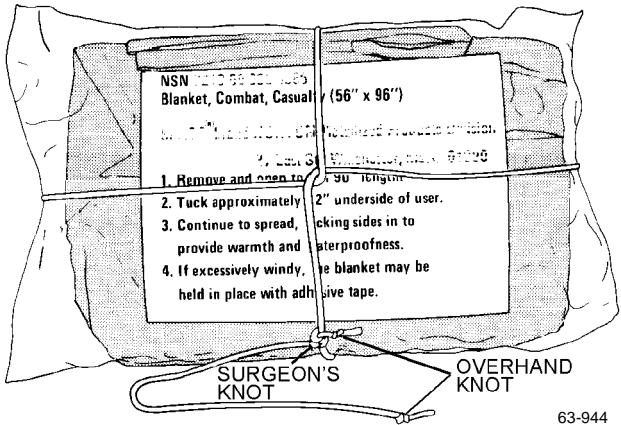
4. Bagged water. Place a maximum of three 4-ounce bagged emergency drinking water flat inside a clear vinyl envelope (MIL-B-117) with pour spout folded down. Bagged water must be able to fit into envelope without disrupting the closure of the sealing slide fastener. Using a 12-inch length of cord, tie an overhand knot on each end and pass knot through center hole in envelope. Secure with bowline knot, allowing an approximate 1-inch loop. Position an overhand knot snugly against the bowline knot. Ensure overhand knot is snug against surgeon's knot.



63-22

Step 4 - Para 10-22

5. Tie an overhand knot in each end of a 40-inch length of nylon cord. Wrap cord around the combat casualty blanket. Rotate cords 1/4 turn as shown, and wrap cord around opposite side of blanket. Tie with a surgeon's knot. Ensure overhand knot is snugly against surgeon's knot.



63-944

Step 5 - Para 10-22

6. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass overhand knot through center grommet in dye marker, and tie a bowline with a 1-inch loop. Ensure overhand knot is snugly against bowline knot.



63-695

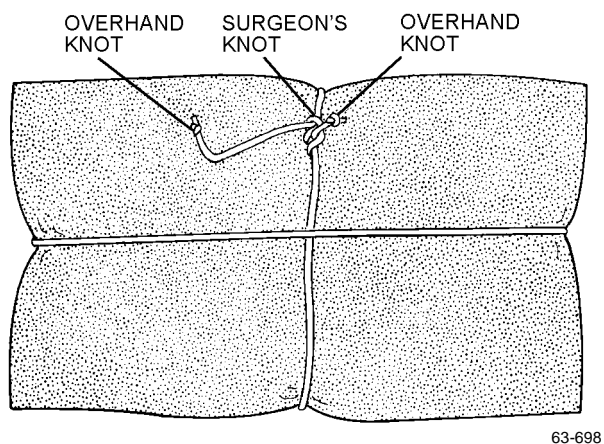
Step 6 - Para 10-22

7. Tie second dye marker in same manner as [step 6](#).

NOTE

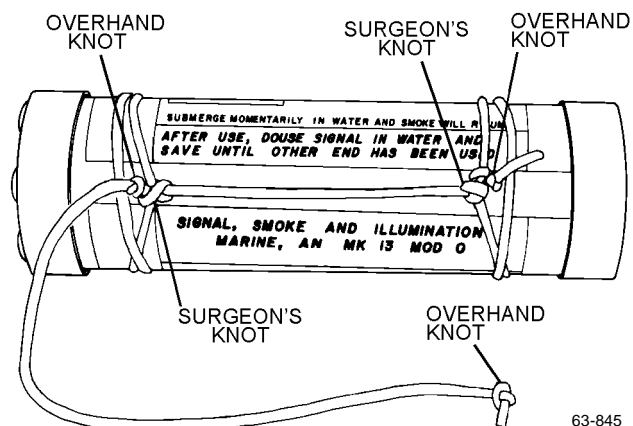
Compress bailing sponge to minimum thickness while wet, and allow to dry in the compressed state before tying.

8. Tie an overhand knot in each end of a 30-inch length of nylon cord. Wrap cord around bailing sponge, then rotate cords 1/4 turn as shown. Wrap cord around opposite side of sponge and tie with a surgeon's knot. Ensure overhand knot is snugly against surgeon's knot.



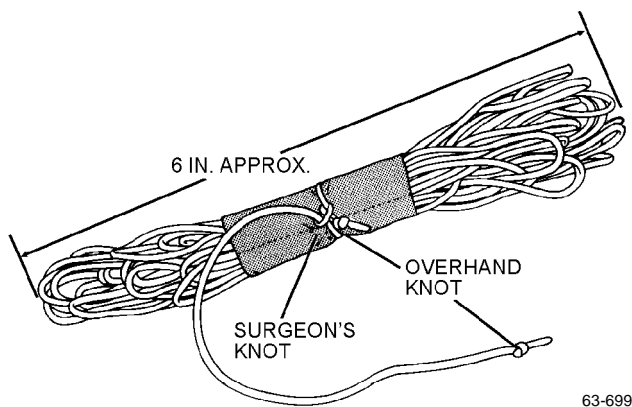
Step 8 - Para 10-22

9. Tie an overhand knot in each end of a 36-inch length of nylon cord. Wrap one end of cord two overlapping turns around end of signal flare (MK-13 MOD 0 or MK-124 MOD 0) and tie with surgeon's knot positioned snugly against cord-end overhand knot. Route cord to opposite end of flare. Wrap cord two overlapping turns around end of flare and tie with surgeon's knot followed by an overhand knot positioned snugly against surgeon's knot. Cord between end-ties shall be drawn tight. Tie second flare in same manner.



Step 9 - Para 10-22

10. Accordion fold the 50-foot length of Type I nylon cord in 6-inch bights. Cut a 2 x 3-inch piece of nylon duck material, and wrap the material around the center of the folded cord. Tie an overhand knot in each end of a 12-inch length of nylon cord, and secure one end around the center of the nylon duck material with surgeon's knot. Ensure overhand knot is snugly against surgeon's knot.



Step 10 - Para 10-22



Ensure pointed end of can opener is wrapped with adequate chafing material to prevent damage to other survival items.

11. Tie an overhand knot in each end of a 12-inch length of nylon cord. Pass overhand knot through hole in can opener, and tie a bowline knot with a 1-inch loop. Ensure overhand knot is snugly against bowline. Wrap pointed end of can opener with chafing material and secure in place with a rubber band (figure 10-6).

12. Ensure survival items are properly tied.

13. Using the 140-inch length of Type I nylon cord, form a 3/4 to 1-inch overhand loop knot approximately 12 inches from one end. Continue forming these loops every five inches until a total of 12 loops are completed. Ensure 25 (± 1) inches of cord remains after forming last overhand loop.

NOTE

Tie survival items to 140-inch cord in the order shown in figure 10-6.

14. Tie each item to a loop with a surgeon's knot. Position cord-end knot snugly against surgeon's knot.

10-23. SURVIVAL EQUIPMENT PACKING. To pack survival equipment into the survival equipment container, proceed as follows (figure 10-7).

1. Place equipment container on table with attaching loops toward packer, and the word EQUIPMENT up.

2. Attach bitter end (closest to can opener) of 140-inch length of nylon cord (with attached survival items) to the loop provided in the forward end of the right leg section of equipment container. Tie with a 2-inch loop bowline and an overhand knot. Ensure overhand knot is positioned snugly against bowline knot.

3. Stow bailing sponge on bottom surface of the right leg pocket.

4. Place 50-foot length of nylon cord on top of sponge.

5. Place can opener, point aft and down, on top of nylon cord.

6. Place a signal flare on top of sponge along each side of can opener and cord.

7. Stow SRU-31/P survival kit packet #1 on top of the two signal flares.

8. Place one dye marker vertically against equipment stowed in right leg.

9. Starting at opposite end of the 140-inch cord, place SRU-31/P packet #2 against outboard wall of left leg pocket.

10. Place can of water alongside the SRU-31/P packet.

11. Fold Ground/Air Emergency Code card in half, and slide in between SRU-31/P packet and water can.

12. Place casualty blanket on top of water can.

13. Place second dye marker vertically against the equipment stowed in left leg.

14. Check stowage with [figure 10-7](#). Ensure all equipment is in leg pockets and a void space remains at aft end of equipment container.

15. Route equipment container retention strap snaphook out right side of equipment container. Close equipment container and connect retention lanyard snaphook to thong on slide fastener.

16. Place equipment container in forward section of lower container. Cut a 52 \pm 1-inch length of Type III nylon cord (MIL-C-5040), and sear ends. Secure cord to equipment container and dropline and tack ([figure 10-8](#)).

NOTE

All tacking cord shall be coated with a mixture of 50% beeswax and 50% paraffin. The cord may be dipped in a melting pot 160° to 200° or drawn across a solid block of the mixture.

10-24. STOWING DROPLINE. To stow dropline in boots, proceed as follows:

NOTE

Stowage boots are referred to as boot A and boot B for identification purposes only. There are no physical differences between boots and the letters A and B do not actually appear on them.

Numbers on stowage channels of boots correspond to dropline bights and the order in which they are to be stowed. Numbers appear in illustration for clarity, they do not actually appear on stowage boots.

The identification yarn on earlier fabricated dropline assemblies may be located on the underside of the webbing. However, procedural steps depicting identification yarn location will be reversed throughout the dropline stowage procedures for these assemblies. Future fabrication of the dropline for the SKU-12/A will be in accordance with [paragraph 10-71](#).

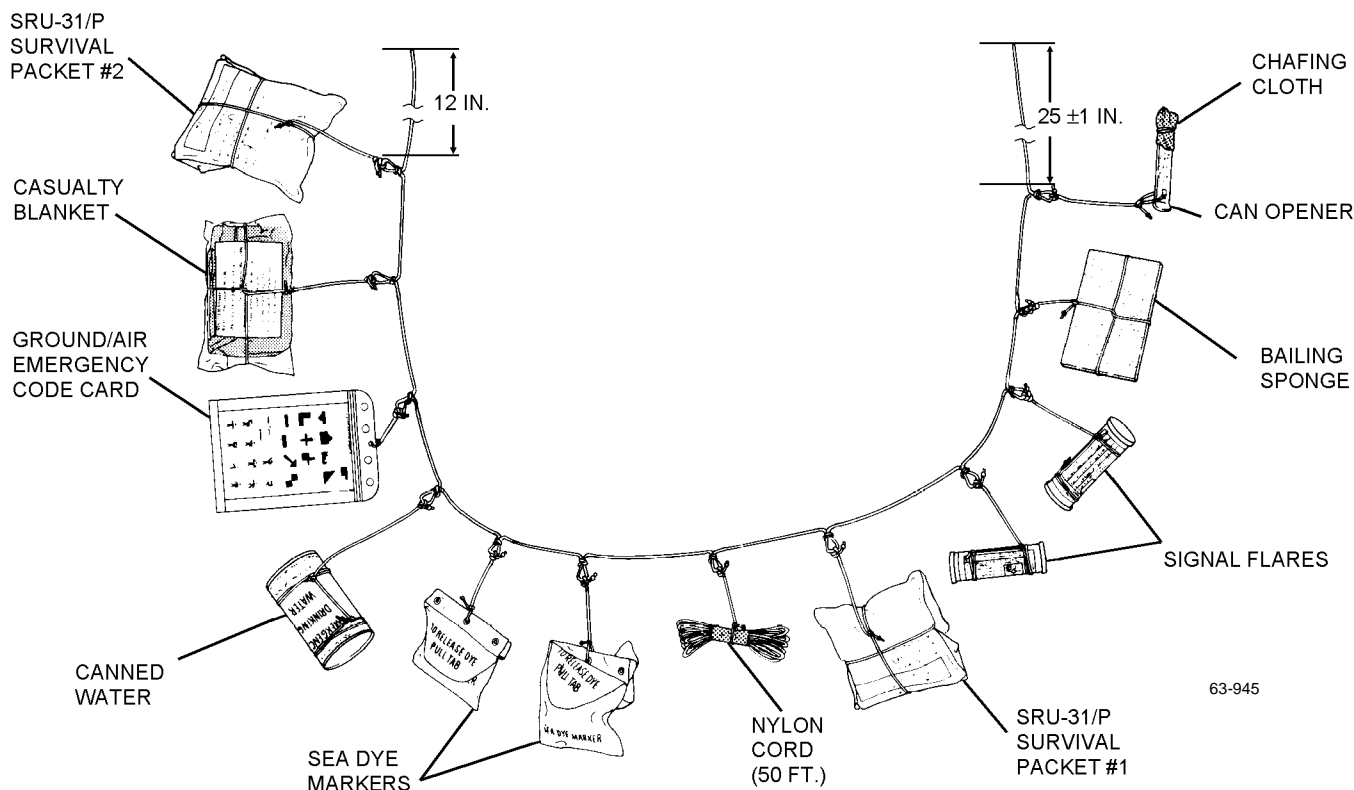
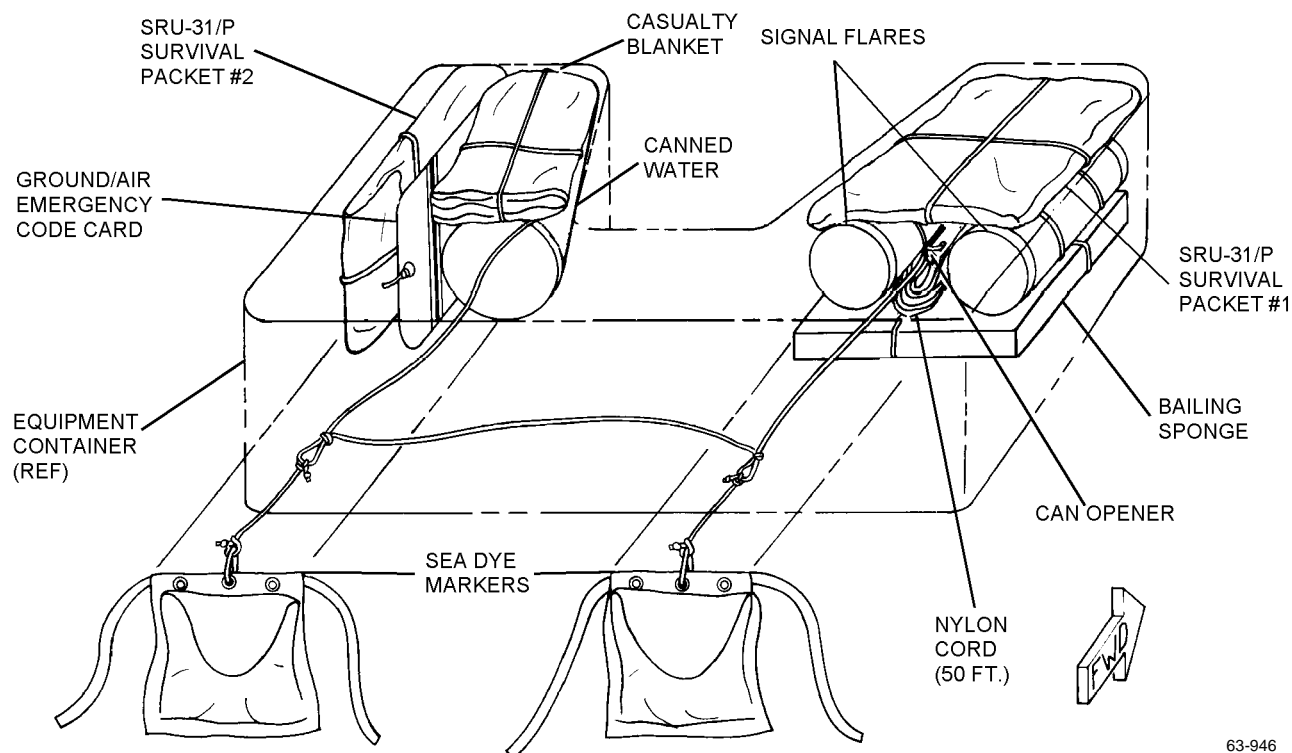
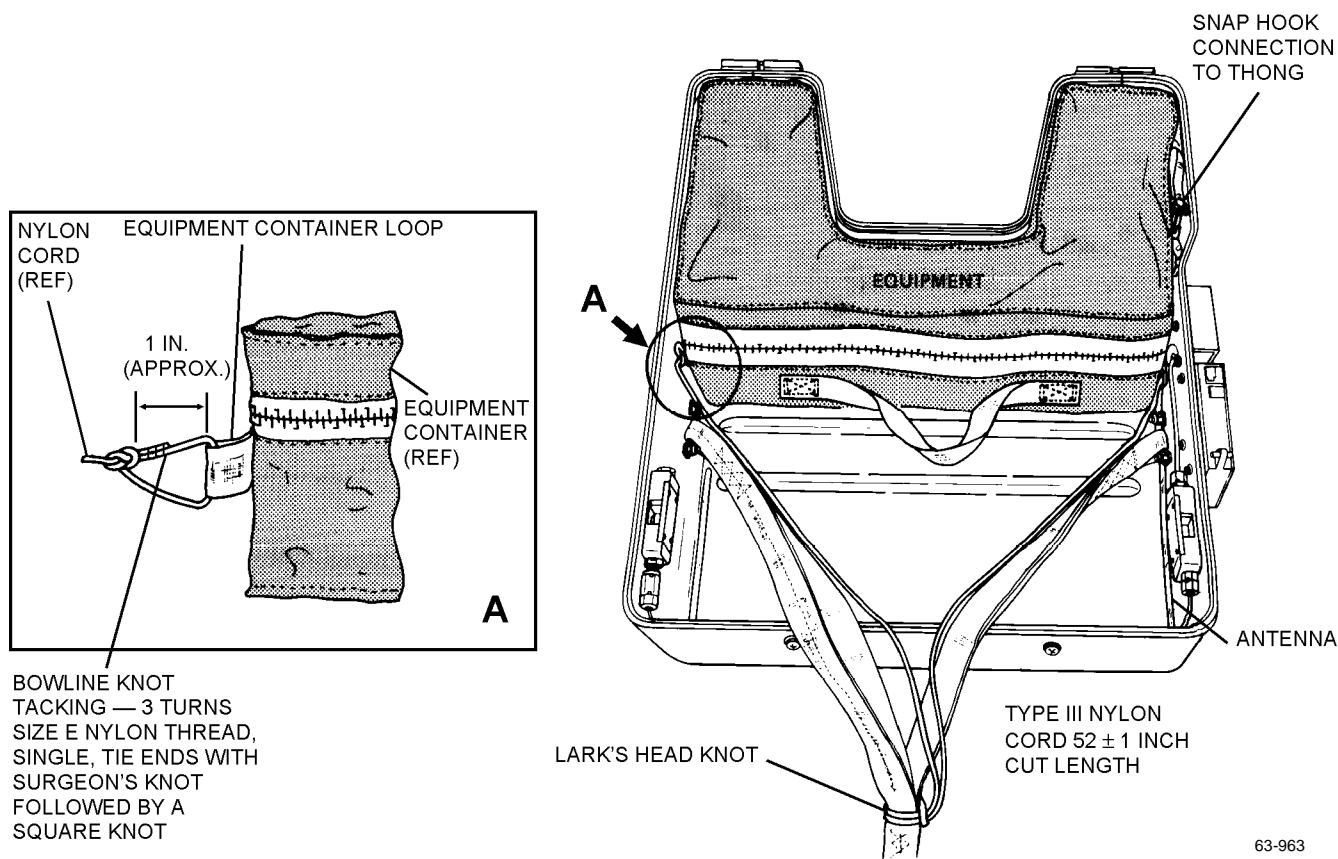


Figure 10-6. Binding Survival Items



63-946

Figure 10-7. Stowing Survival Equipment

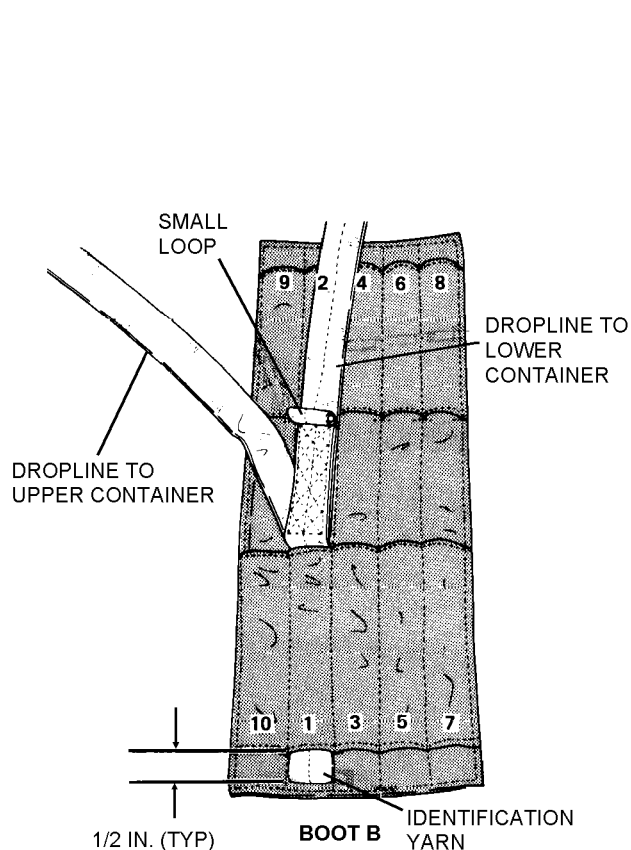


63-963

Figure 10-8. Stowed Survival Equipment Container

1. Lay dropline out flat between container halves with dropline loops up. Remove all twists from dropline prior to beginning stowing operation.

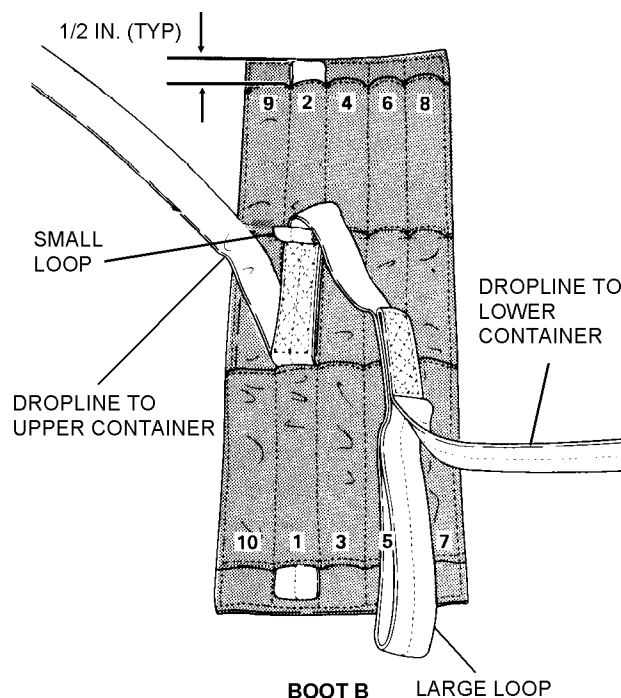
2. Position boot B to the left of lower container. Form the first bight 5 ± 1/2 inch from base of small loop stitching. Bight shall be in portion of dropline going to upper container and small loop shall face up. Stow bight in channel 1 of boot B. Push bight into channel with a 7-inch length of 3/8-inch hardwood dowel tapered at one end. There shall be a 1/2-inch protrusion at end of channel and identification yarn shall be visible at protrusion.



63-721

Step 2 - Para 10-24

3. Second bight shall be formed in portion of dropline going from small loop to large loop and shall be stowed in channel 2. Identification yarn shall not show at protrusion.

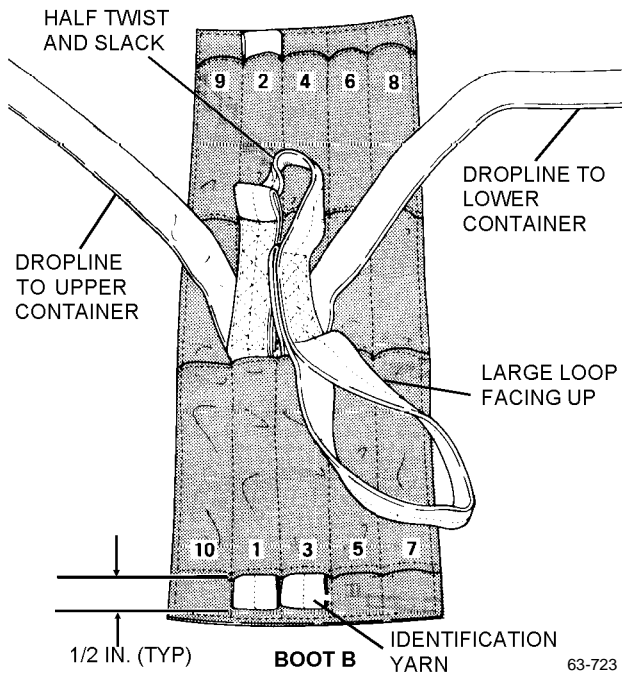


63-722

Step 3 - Para 10-24

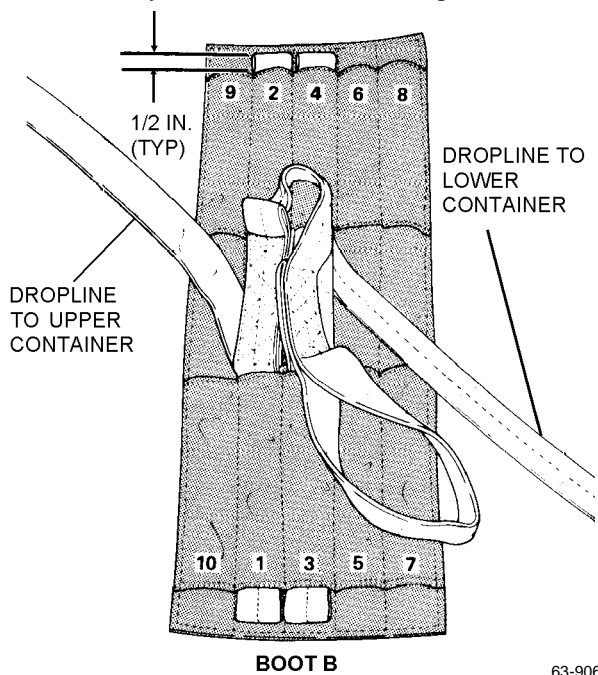
NAVAIR 13-1-6.3-2

4. Place a half-twist in dropline by rotating clockwise so that large loop faces up. Stow third bight in channel 3. A small amount of slack may exist between bights 2 and 3. Identification yarn shall be visible at protrusion.



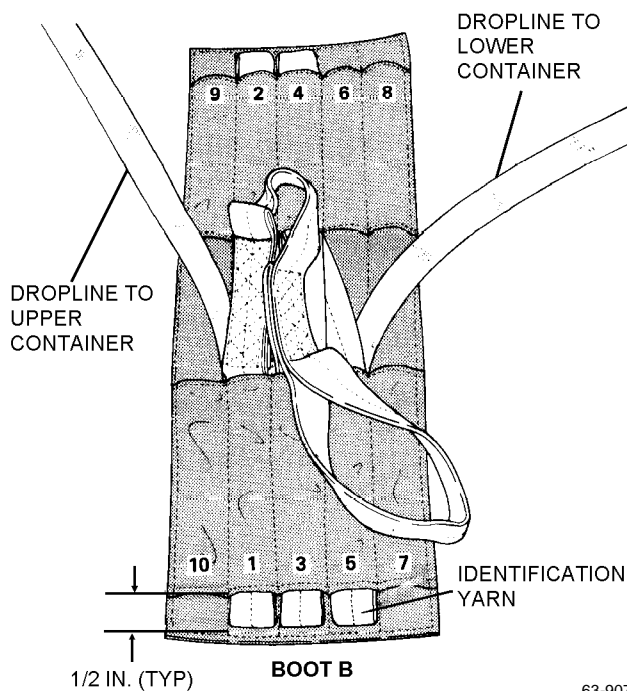
Step 4 - Para 10-24

5. Stow fourth bight in channel 4, ensuring that identification yarn does not show at protrusion.



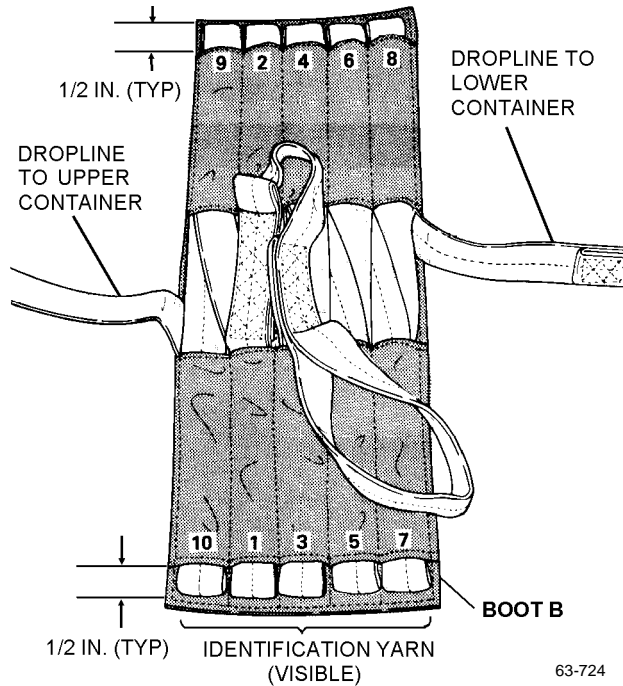
Step 5 - Para 10-24

6. Stow fifth bight in channel 5, ensuring that identification yarn is visible at protrusion.



Step 6 - Para 10-24

7. Stow remainder of dropline in boot B in accordance with numbering sequence on boot as shown, maintaining 1/2-inch protrusion. If there is insufficient line, due to allowable tolerance in length of dropline, a full stow may be impossible in channel 8.

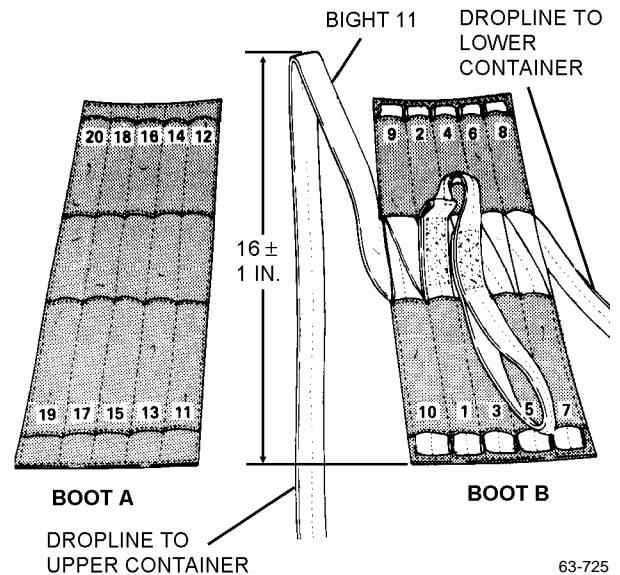


Step 7 - Para 10-24

NOTE

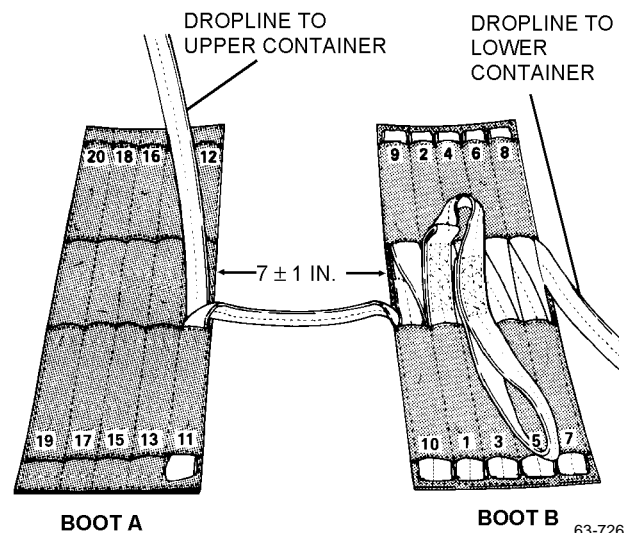
Upon the completion of [step 7](#), identification yarn shall be visible at channels 1, 3, 5, 7 and 10, and shall not show at channels 2, 4, 6, 8 and 9.

8. Form bight 11 in dropline 16 ± 1 inches from bottom of last bight (bight 10) in boot B.



Step 8 - Para 10-24

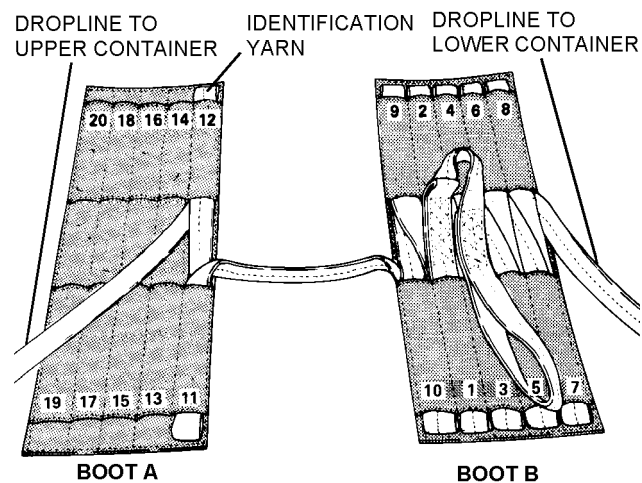
9. Stow bight 11 (formed in [step 8](#)) in channel 11 of boot A. There shall be 7 ± 1 inches of dropline between boots A and B when bight 11 is stowed. Identification yarn shall not show at protrusion.



Step 9 - Para 10-24

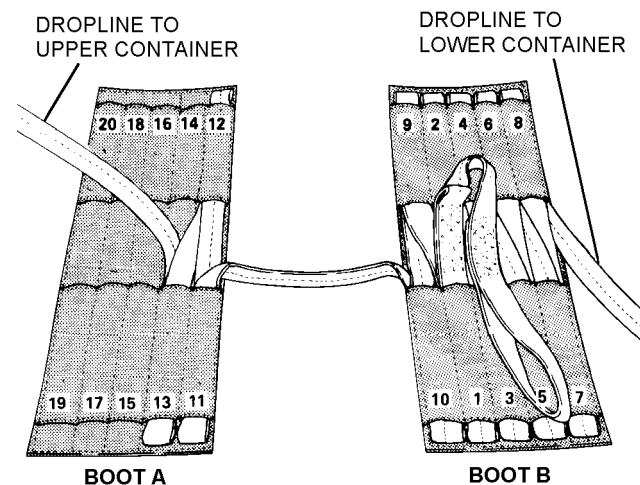
NAVAIR 13-1-6.3-2

10. Stow bight 12 in channel 12 of boot A. Identification yarn shall be visible at protrusion.



63-908

11. Stow bight 13 in channel 13. Identification yarn shall not show at protrusion.

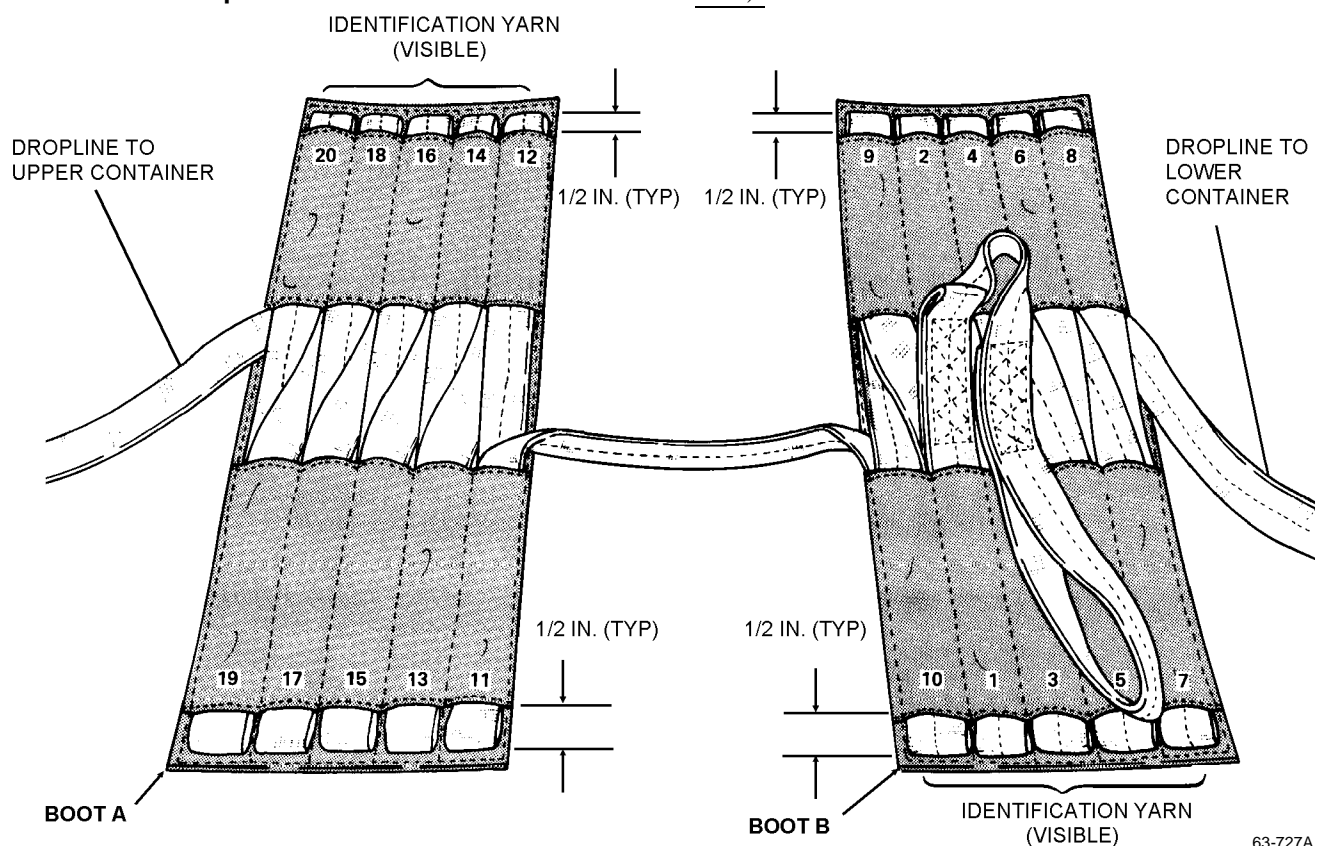


63-909

Step 11 - Para 10-24

12. Continue stowing bights in boot A until all line is stowed. Maintain 1/2-inch protrusion ([figure 10-9](#)).

Step 10 - Para 10-24



63-727A

Figure 10-9. Stowage of Dropline

NOTE

Upon the completion of [step 12](#), identification yarn shall be visible at channels 12, 14, 16, 18, and 20, and shall not show at channels 11, 13, 15, 17, and 19.

10-25. LIFERAFT PREPARATION, FOLDING, RIGGING AND PACKING. To prepare, fold, rig, and pack the LR-1 liferaft, proceed as follows:

Materials Required

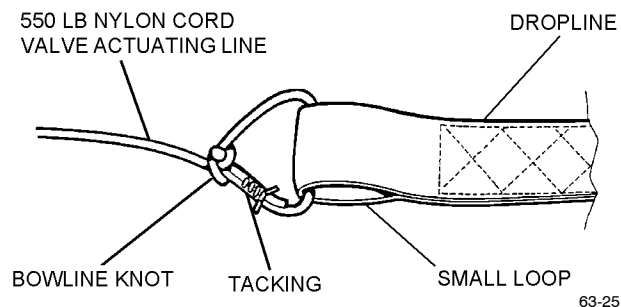
Quantity	Description	Reference Number
As Required	Powder, Talcum	MIL-T-50036 NIIN 01-080-9589
As Required	Thread, Nylon, Waxed, Size E	MIL-C-5040 NIIN 00-240-2146 (or equivalent)
As Required	Cord, Nylon, 550-pound, Type III	V-T-295 NIIN 00-244-0609 (or equivalent)

NOTE

If the valve actuating line is damaged, incorrectly installed, or not installed, install new line in accordance with [steps 1 and 2](#).

1. Cut 15-inch length of 550-pound Type III nylon cord (MIL-C-5040) and sear ends.

2. Route one end through small loop on dropline and tie bowline knot. Tack with three turns of waxed, size E nylon thread (V-T-295), single. Tie ends with, surgeon's knot followed by a square knot.



Step 2 - Para 10-25

3. Lay raft assembly flat with inside up and bow to the right.

4. Ensure all trapped air is expelled from raft, and oral inflation valve is locked and stowed in pocket.

5. Lightly dust entire raft with talcum powder (MIL-T-50036).

6. Secure sea anchor line in 3-inch bights. Fold and stow sea anchor and line in sea anchor pocket.

7. Position raft aft of lower container assembly.

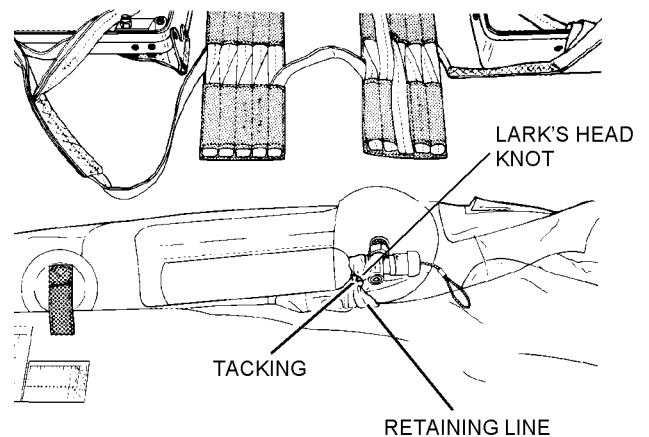
WARNING

Gas under pressure. Do not loosen or attempt to remove inflation valve assembly from carbon dioxide cylinder.

NOTE

Ensure the CO₂ cylinder is in its stowage pocket and the inflation valve is disconnected from the raft. Ensure the anti-chafing disc is in position on the inlet check valve.

8. Attach raft retaining line to cylinder with a lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord, single. Tie ends with surgeon's knot followed by a square knot.



Step 8 - Para 10-25

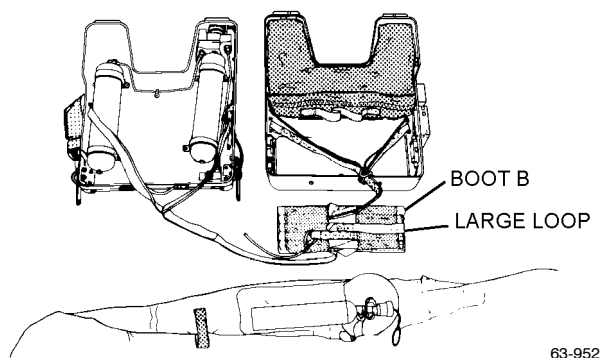
NAVAIR 13-1-6.3-2

9. Accordion fold remainder of raft retaining line and stow in raft retaining line pocket. Close pocket closure tab and secure hook and pile tape.

NOTE

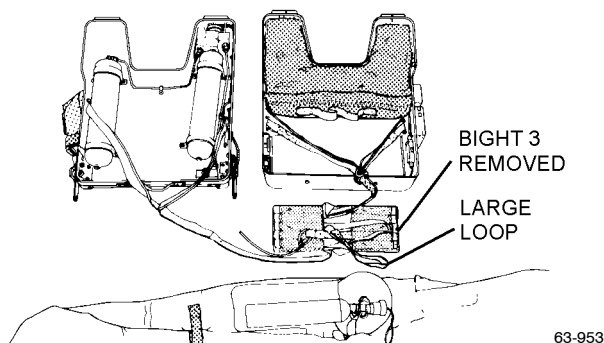
When repositioning boots, it may be necessary to move upper container. Make adjustments as necessary.

10. Position boot B on top of boot A and place boots between raft and lower container with large loop of dropline facing up and to the right.



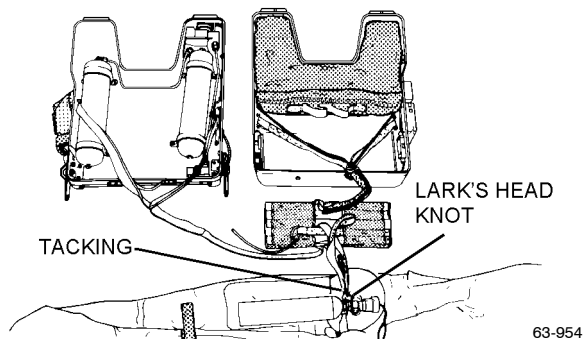
Step 10 - Para 10-25

11. Remove bight from channel 3, boot B.



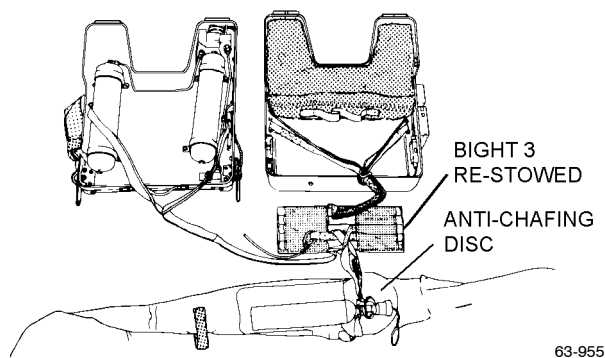
Step 11 - Para 10-25

12. Attach large loop of dropline around neck of cylinder with a lark's head knot. Pull knot tight and tack with two turns of waxed nylon 6-cord, single. Tie ends with a surgeon's knot followed by a square knot.



Step 12 - Para 10-25

13. Ensure CO₂ cylinder anti-chafing disc is installed. Attach inflation valve to liferaft inlet valve and tighten coupling nut to a torque valve of 80 to 90 in-lbs. Stow bight removed from channel 3 of boot B. Bight will not extend full length of channel.

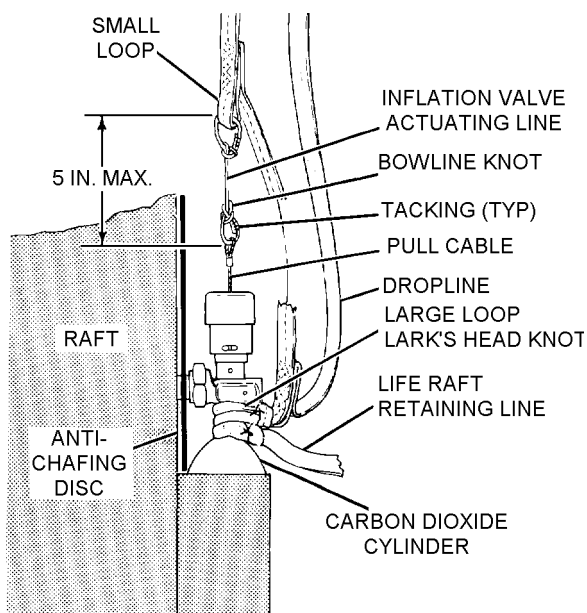


Step 13 - Para 10-25

WARNING

Final dimension of valve actuating line is critical. Finished length shall not exceed 5 inches.

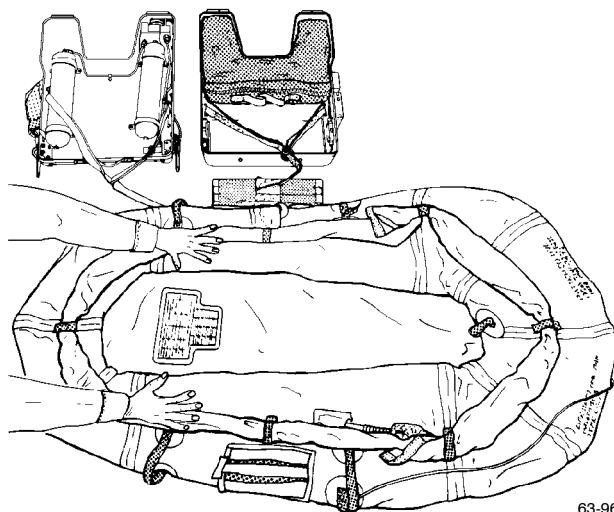
14. Pass valve actuating line through loop in end of pull cable and tie with a bowline knot. Tack with three turns of waxed size E nylon thread, single. Tie ends with surgeon's knot followed by square knot. Finished length shall not exceed 5 inches.



63-358A

Step 14 - Para 10-25

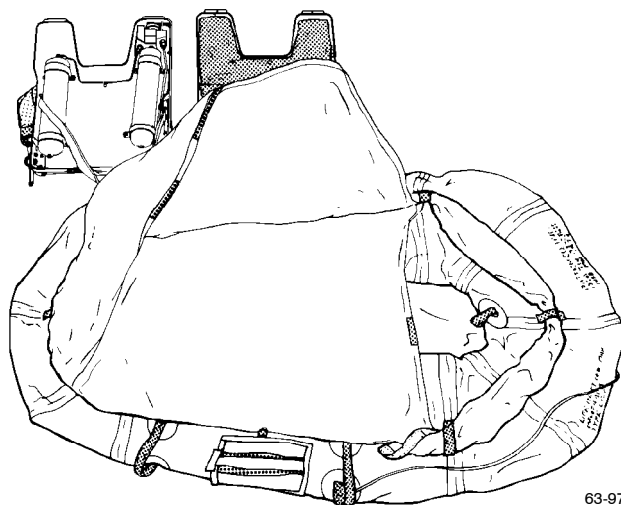
15. Flatten all areas of the raft by hand as much as possible.



63-969

Step 15 - Para 10-25

16. Unfold weathershield on stern end of raft. Fold one end over and obtain the flattest configuration possible.

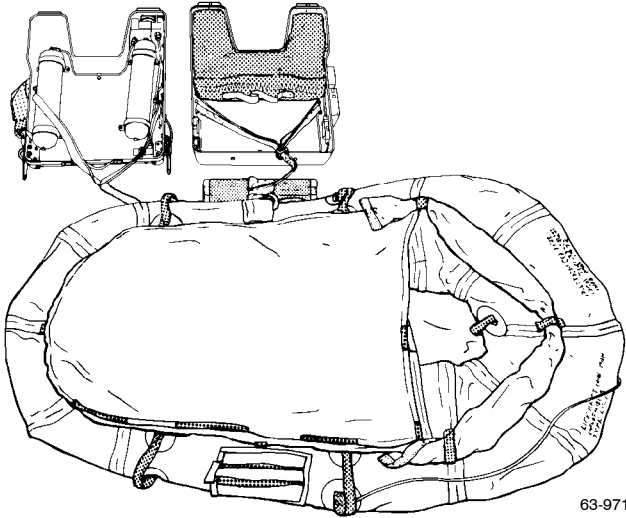


63-970

Step 16 - Para 10-25

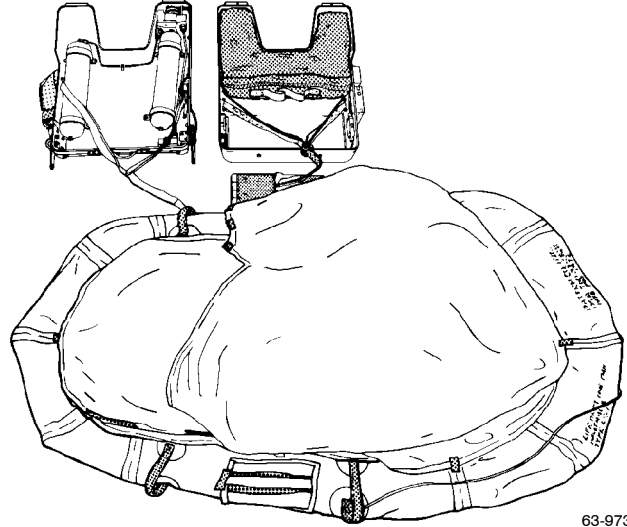
NAVAIR 13-1-6.3-2

17. Fold opposite end over onto previously folded portion. Flatten and remove wrinkles to obtain flattest configuration.



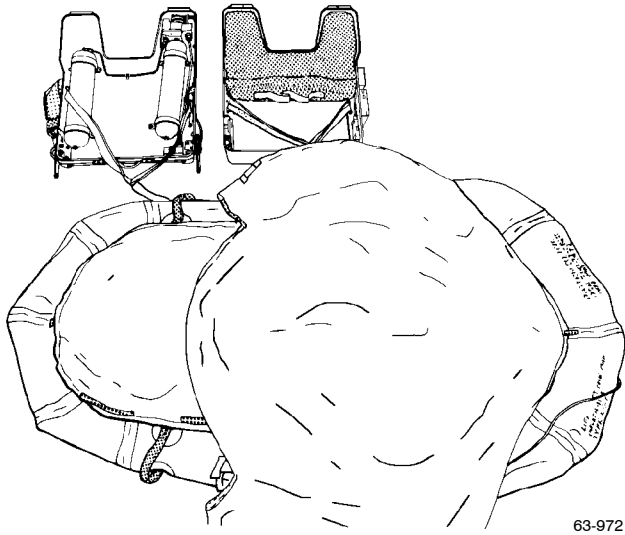
Step 17 - Para 10-25

19. Fold one side under to the approximate width of the folded portion of weathershield at the stern end of raft.



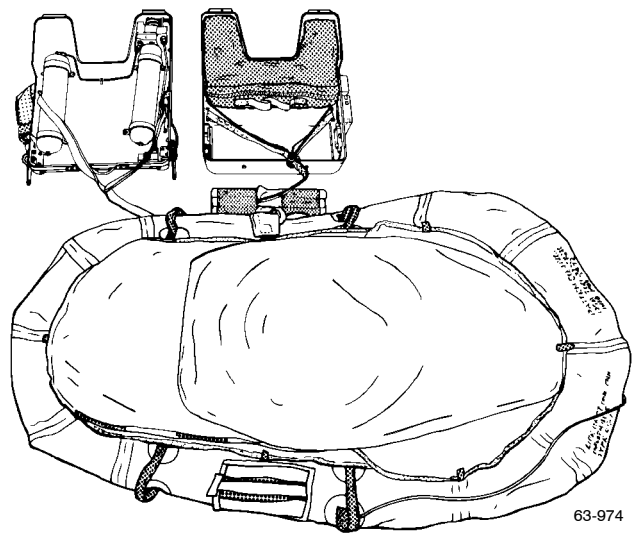
Step 19 - Para 10-25

18. Unfold weathershield on bow end of raft.



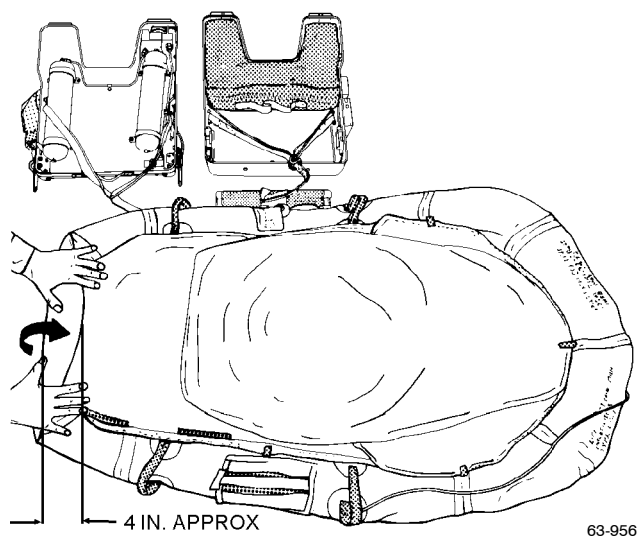
Step 18 - Para 10-25

20. Fold the opposite end under in same manner.



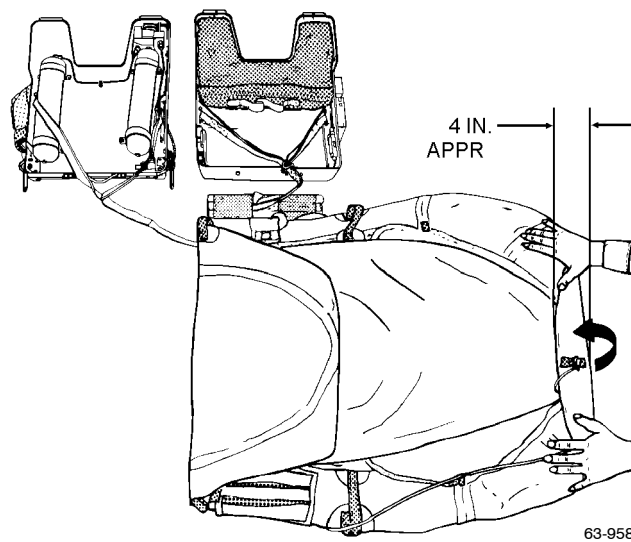
Step 20 - Para 10-25

21. Fold stern of raft over approximately 4 inches.



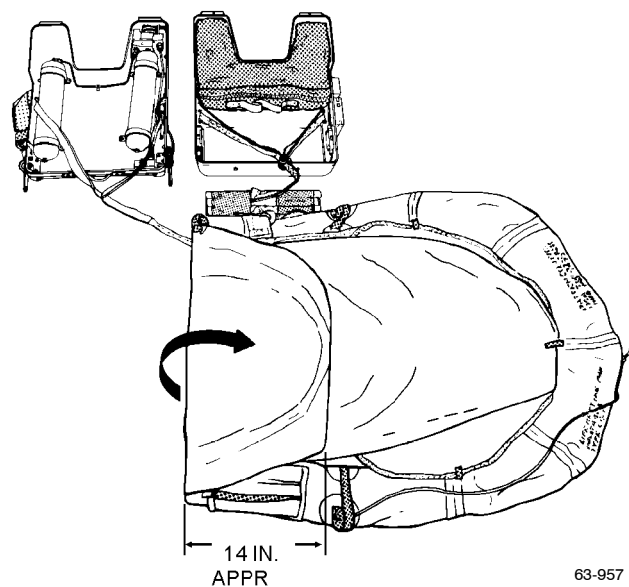
Step 21 - Para 10-25

23. Fold bow of raft over approximately 4 inches.



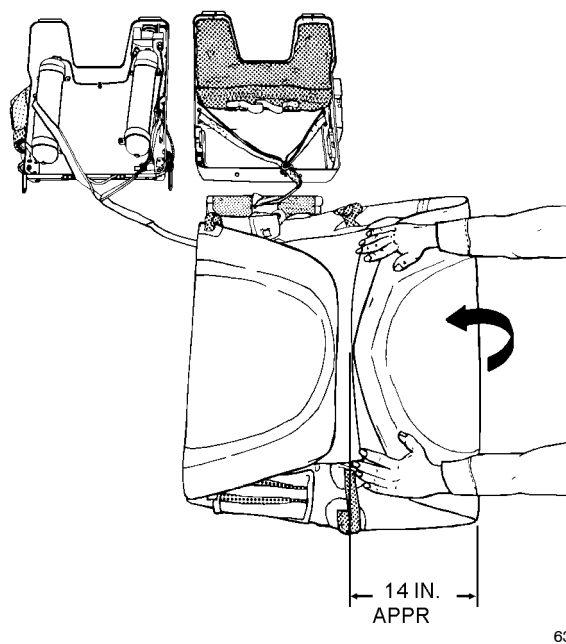
Step 23 - Para 10-25

22. Fold stern once again, making an approximate 14-inch dimension.



Step 22 - Para 10-25

24. Fold bow over again, making an approximate 14-inch dimension.

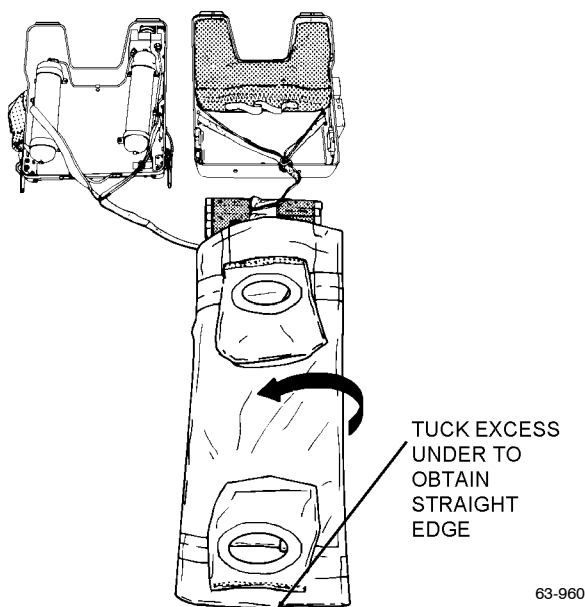


Step 24 - Para 10-25

NOTE

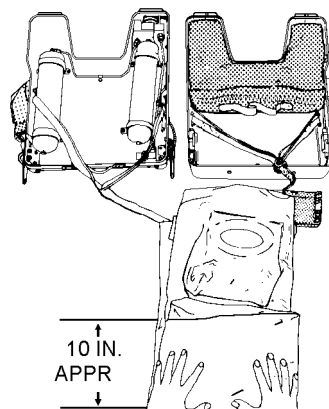
Width of folded raft must not exceed width of raft cover. Adjust as necessary.

25. Fold bow over stern. Tuck excess raft material under to form a straight edge. Fold and flatten ballast bags. Ensure width of folded raft is not greater than width of raft cover.



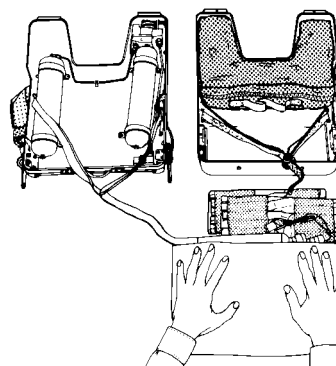
Step 25 - Para 10-25

26. Starting at edge away from container, make an approximate 10-inch fold.



Step 26 - Para 10-25

27. Rotate CO₂ cylinder over and position on top of raft. Fold raft over and butt fold against cylinder. Top fold and top of cylinder should be approximately the same height.

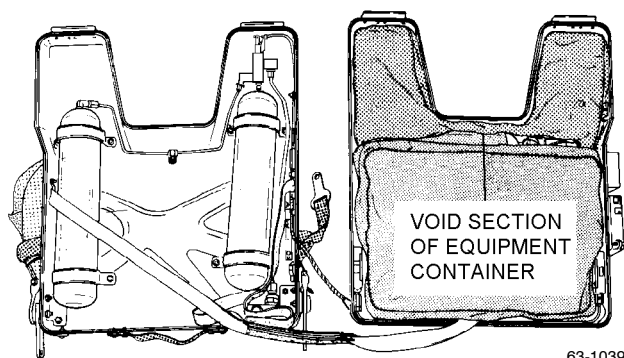


Step 27 - Para 10-25

NOTE

If it becomes necessary to retain the raft in the folded position for any length of time, a liferaft packing aid may be fabricated in accordance with [paragraph 10-74](#), or the liferaft cover may be used to retain the raft in the folded condition.

28. Grasp dropline boots and folded raft assembly and place in aft section of lower container. Inflation assembly should rest on top of boot B and butt against void section of equipment container.



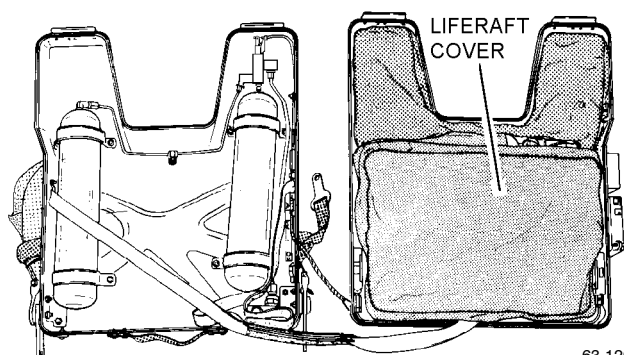
63-1039

Step 28 - Para 10-25

NOTE

Raft adjustment may be required at this point to obtain flattest condition.

29. Place cover over raft. Tuck in completely around raft. Ensure raft material does not extend beyond cover, and cover does not extend beyond edges of container.



63-120

Step 29 - Para 10-25

10-26. CLOSING CONTAINER. To close the container, proceed as follows:

NOTE

Top section of dropline may be laid on top of raft cover after packing.

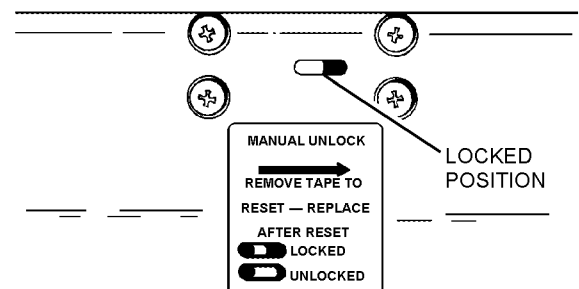
1. Insert release handle into latching mechanism before latching two sections of survival kit.

2. Engage hinge assemblies on lid with hinge assemblies on lower container.

3. Check latches for obstructions.

4. Press lid firmly down onto lower container.

5. Verify positive latching by viewing engagement of latches through inspection ports on each side of lower container and comparing with instruction label.



63-975

Step 5 - Para 10-26

6. Perform release handle pull test and inspection.
Refer to [paragraph 10-27](#).

7. Charge oxygen system in accordance with [paragraph 10-40](#).

8. Remove plug (99, [figure 10-24](#)).



If reducer cam has been twisted or forced beyond vertical (cocked) position, carefully reposition reducer cam. If cables/terminal balls are not properly positioned, open SKU-12/A and position cables so that reducer cam is free to move.

9. Using flashlight, visually inspect position of reducer cam (1, [figure 10-26](#)); ensure reducer cam is in vertical (cocked) position relative to reducer. Also, check position of actuation cables and terminal balls (59, 93 and 91, [figure 10-24](#)); ensure cables are not wrapped around reducer cam and/or terminal balls are not jammed against inside of kit lid.

10. Reinstall plug removed in [step 8](#).

11. If required, close kit in accordance with [steps 1 through 6](#).

12. Ensure emergency oxygen manual release handle is properly secured so that ring portion protrudes into open space to the right (inside) of the left thigh support portion of the kit. The ring shall be readily visible after thigh pad installation.

13. Attach cushion and thigh pads to container lid.

14. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

10-27. RELEASE HANDLE PULL TEST AND INSPECTION. To perform the release handle pull test, proceed as follows:

Materials Required

Quantity	Description	Reference Number
16 inches	Cord, Nylon, Type I	MIL-C-5040 NIIN 00-240-2154 or equivalent
As Required	Sealing, Locking and Retaining Compound Grade B, Type B	MIL-S-22473 NIIN 01-163-2339 (Note 1)

Notes: 1. Use any contrasting color.

Support Equipment Required

Quantity	Description	Reference Number
1	Dial Push/Pull Gage, 0 to 50 Pounds	DPPH50 (CAGE 11710) NIIN 00-473-0108 or equivalent

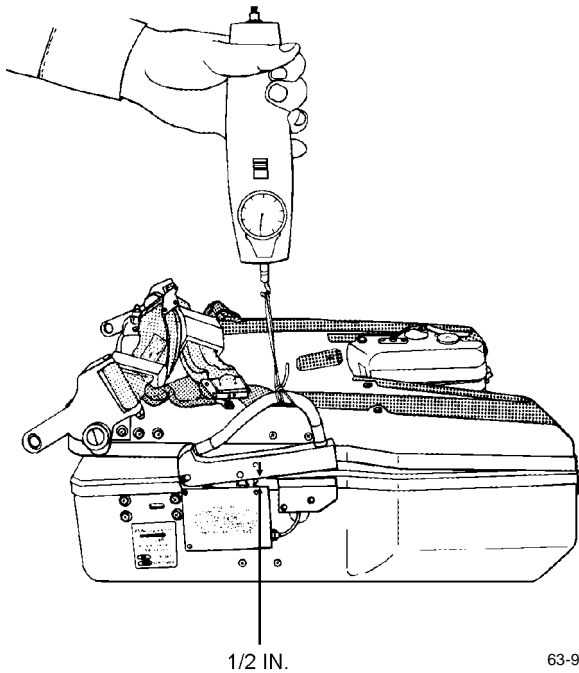
1. Sear each end of the 16 inch nylon cord. Fold the cord in half and tie a binders knot with loose ends. Attach the cord to the release handle at a point approximately 4 1/2 inches forward of the handle pivot point using a larks head knot. Attach the hook on the push/pull gage to the cord.

NOTE

Do not exert downward pressure in the latch area while performing pull test. If necessary to steady kit, place hand in center of kit. Use minimum pressure.

The length of travel of the release handle must be measured while performing the pull test.

2. Apply a steady upward pull and note force required to unlock latches. Force required to unlock latches in the first 1/2 inch of travel, measured at the engagement link, shall be 10 to 30 pounds, and the handle shall pull free of the engagement link. If release assembly fails the test, refer to [table 10-7](#) to determine probable cause and remedy.



63-948

Step 2 - Para 10-27

3. Remove push/pull gage. Leave nylon cord attached as it will be needed to perform the release handle integrity test in accordance with [paragraph 10-28](#).

4. Inspect release handle for deterioration, corrosion or other damage in accordance with [table 10-8](#). If screws on outside coverplate of release handle assembly are loose apply sealing compound (MIL-S-22473) to end two threads and replace.

5. Proceed to [paragraph 10-28](#) for the release handle integrity test.

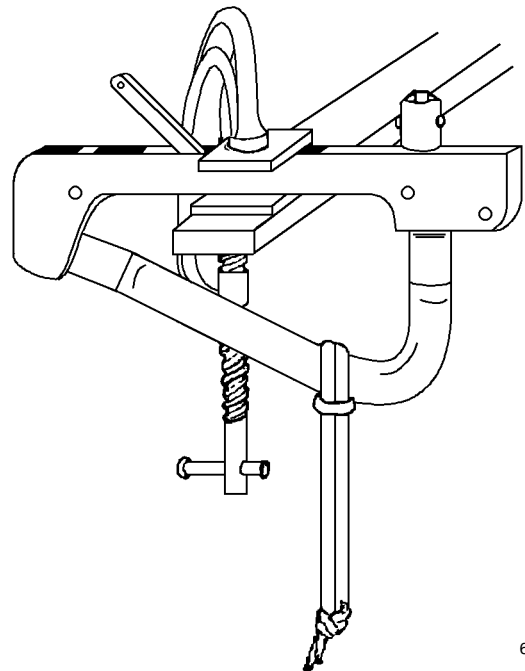
10-28. Release Handle Integrity Test. To perform the release handle integrity test, proceed as follows:

Support Equipment Required

Quantity	Description	Reference Number
1	Dial Push/Pull Gage, 0 to 50 Pounds	DPP-50 (CAGE 11710) NIIN 00-880-7583 (or equivalent)
1	1" x 1" x 12" Bar Stock	Common Shop Equip
2	1" x 1" x 1/4" Wood Stock	Common Shop Equip
1	4" C-Clamp	Common Shop Equip

1. Clamp a section of the 1" x 1" x 12" bar stock into bench vice with approximately 4 inches protruding over bench edge. Place a 1" x 1" x 1/4" wood stock on top of the bar stock near protruding end.

2. Mount handle assembly on wood and bar stock with rubber of handle facing down. Place the second 1" x 1" x 1/4" wood stock on top of release handle. Using 4 inch "C" clamp, fasten base of handle to overhanging end of bar stock as shown.



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Step 2 - Para 10-28

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3. Attach Push/Pull gage at opposite end of lark's head and pull until 50 pounds is read on gage. Do not exceed 50 pounds of force on handle assembly.

4. If inner steel cable fails, remove from test set-up and replace with a new release handle. Test the new release handle assembly in accordance with [paragraphs 10-27 and 10-28](#). Report all discrepancies to the Cognizant Field Activity for Seat Survival Kits.

5. If inner steel cable does not fail, remove nylon cord from release handle.

6. Reinstall release handle in release mechanism to reset latches. Close lid.

7. Check for proper engagement of latches through inspection ports.

10-29. DELETED

Figure 10-10. Deleted

Figure 10-11. Deleted

Section 10-4. Turnaround/Daily/Preflight/Postflight/Transfer/ Special/Conditional Inspection

10-30. GENERAL.

10-31. The Turnaround/Daily/Preflight/Postflight or Transfer Inspections consist of a visual type inspection performed in conjunction with the aircraft inspection requirements for the aircraft in which the survival kit is installed. These inspections shall be performed by line personnel (plane captain) or delegated aircrewmembers who have been instructed and found qualified by the Aviator's Equipment Branch.

10-32. The Conditional Inspection is an unscheduled inspection required as the result of a specific situation or set of conditions, e.g., hard-landing inspections or any inspection directed by higher authority that is not ordered in a technical directive. Completion and date of inspection shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

10-33. The Special (7/14 day, etc.) Inspection shall be performed on in-service survival kits installed in aircraft and in ready room issued. This inspection shall be performed at the Organizational Level of maintenance by personnel assigned to the Aviator's Equipment Branch. Completion and date of inspection shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

10-34. TURNAROUND/DAILY/PREFLIGHT/POST-FLIGHT/TRANSFER AND SPECIAL INSPECTION PROCEDURES. Each of these inspections consist of a visual inspection of the following:

1. Seat kit fit in ejection seat bucket.
2. Release handle for proper seating and corrosion.
3. Cushion for secure attachment, rips, tears, and loose or frayed stitching.
4. Remove left side thigh support cushion and reducer cam access plug (98, [figure 10-24](#)). Using flashlight, visually inspect position of cam; ensure cam is in vertical (cocked) position relative to reducer. Also, check cables/cable balls for proper routing and engagement; ensure cable balls are not jammed against lid of kit.

5. Check oxygen gauge for FULL indication.
6. Replace access plug and thigh support cushion.
7. Harness assemblies for loose or frayed webbing, stitching, and cracked or broken hardware.
8. Lapbelt release assembly for loose or missing screws and corrosion.
9. Manual emergency oxygen release and cable for condition and security of attachment.
10. Automatic emergency oxygen lanyard coupling assembly for spring security. Ensure that cable coupling has not separated from cable.
11. Automatic emergency oxygen lanyard for secure attachment to personnel service disconnect block.
12. Container assembly for cracks, breaks, and other obvious damage.
13. Beacon actuator indicator for bent shaft, hair-pin cotter for elongation and corrosion, and proper mousing.
14. Secure attachment of beacon automatic actuation lanyard to aircraft deck.
15. Secure attachment of negative g-lock.
16. Condition of oxygen hose and secure attachment to kit. If repair procedure has been performed on oxygen hose assembly, check external wiring for secure attachment.

10-35. If discrepancies are found or suspected, Maintenance Control shall be notified.

10-36. Survival kits which do not pass inspection and cannot be repaired in the aircraft shall be removed in accordance with applicable aircraft manual and replaced with a Ready For Issue (RFI) survival kit. Non-RFI survival kits shall be forwarded to the nearest maintenance activity having repair capability for corrective action.

Section 10-5. Acceptance/Phased/SDLM/PDM Inspection

10-37. GENERAL.

10-38. An Acceptance Inspection shall be performed on a survival kit when it is placed into service or at the time a reporting custodian accepts a newly assigned aircraft from any source, and on return of an aircraft from SDLM/PDM or other major D-level rework. The Phased/SDLM/PDM Inspection cycle of the survival kit shall be 448 days for the F-14 aircraft and 364 days for the EA-6B aircraft. In no case, however, shall the phased interval exceed 448 days for the F-14 aircraft and 364 days for the EA-6B. The battery test inspection cycle for the AN/URT-33A Radio Beacon is dependent upon the type of the battery installed. Refer to NAVAIR 16-30URT33-1 for battery test inspection cycles and requirements. For acceptance inspection purposes, verification of pyrotechnics and configuration is accomplished by visual record examination only. Disassembly beyond the daily inspection requirements of applicable publications is not required. Activities may elect to increase the depth of inspection if equipment condition, visual external inspection, or record examination indicates such action is warranted.

10-39. VISUAL INSPECTION. This inspection shall be performed prior to the functional check of the kit. Visually check kit for the following:

1. Cushion for rips, tears, loose or frayed stitching, and general condition.
2. Surface unclean, rough, misaligned, or container cracks, nicks, or other flaws.
3. Condition and security of hook and pile tape.
4. Release handle for wear, corrosion, and damage.
5. Webbing for cuts, loose or frayed stitching, and security of attachment.
6. Lapbelt release assembly for loose or missing screws and corrosion.
7. Hoses for cracks and deterioration.
8. Material imperfections, foreign matter embedded, burrs or sharp edges inside and outside kit, or other faulty workmanship.

9. Any component loose or otherwise not securely retained.

10. Any functioning part that operates with difficulty.

11. Evidence of oil preservatives or hydrocarbon materials on emergency oxygen system components or hoses.

12. Markings (missing, insufficient, incorrect, illegible, not permanent).

13. Cable assemblies for rust or corrosion.

14. Swaged balls on cable assemblies for security of attachment.

15. Negative-g lock striker fitting and backplate for secure attachment.

16. Condition of upper container lid lock surfaces.

10-40. FUNCTIONAL CHECK. The functional check shall be performed any time a kit is placed in service, after any adjustment procedures, or when equipment condition, visual external inspection, or record examination indicates such action is warranted to determine the condition of the kit. To perform a functional check, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Test Stand	59A120 (CAGE 02551) or 31TB1995-1 (CAGE 99251)
1	Dial, Push/Pull Gage, 0-50 Pounds	DPPH50 (CAGE 11710) NIIN 00-473-0108
1	Cam Reset Tool	—

CAUTION

Discontinue functional test if seat kit fails to pass any steps of test procedures. Repair malfunction before continuing procedures or damage to seat kit may result. After repair, the entire test procedure shall be performed.

NOTE

Performance of, and test results produced by a test stand depends largely upon the skill of the operator. Therefore, operators shall be thoroughly familiar with instruments, controls, and connections that comprise systems incorporated in the test stand. Refer to NAVAIR 17-15BC-20 and NAVAIR 13-1-6.4-4 for details of the 59A120 or 31TB1995 series liquid oxygen converter test stands.

Emergency oxygen cylinder pressures used in this functional test were derived under ideal shop conditions of 70°F (21°C). Variances in ambient air temperatures directly affect charging pressures. Refer to [table 10-5](#) for details.

Ensure that emergency oxygen cylinder is charged to 1800 to 2000 psi.

1. Remove bell jar and connect oxygen outlet hose of kit to fitting (C-1). Ensure that valve (V-2) is open and all other test stand valves are closed ([figure 10-12](#)).

2. Attach push/pull gage to manual emergency oxygen release handle.

Table 10-5. Charging Stages

Stage	PSI
1	500
2	1000
3	1500
4	1800
5	2000

3. Measure force required to disengage manual oxygen release. Force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psi on test stand gage (PG-1).

4. Reset reducer assembly.

5. Turn on oxygen supply cylinder to test stand.

6. Slowly open valve (V-6) on test stand and adjust pressure on gage (PG-1) to 90 psi.

7. Measure the force required to disengage the manual oxygen release using push/pull gage. Force required shall be 10 to 30 pounds.

WARNING

Do not use leak detection compound which is not clear and free of suspended material/sediment or which has peculiar odors such as acetone or alcohol. Compound having any of these characteristics is considered contaminated and shall be disposed of.

8. Use leak detection compound to check all pressure lines and fittings on survival kit to ensure no leakage.

NOTE

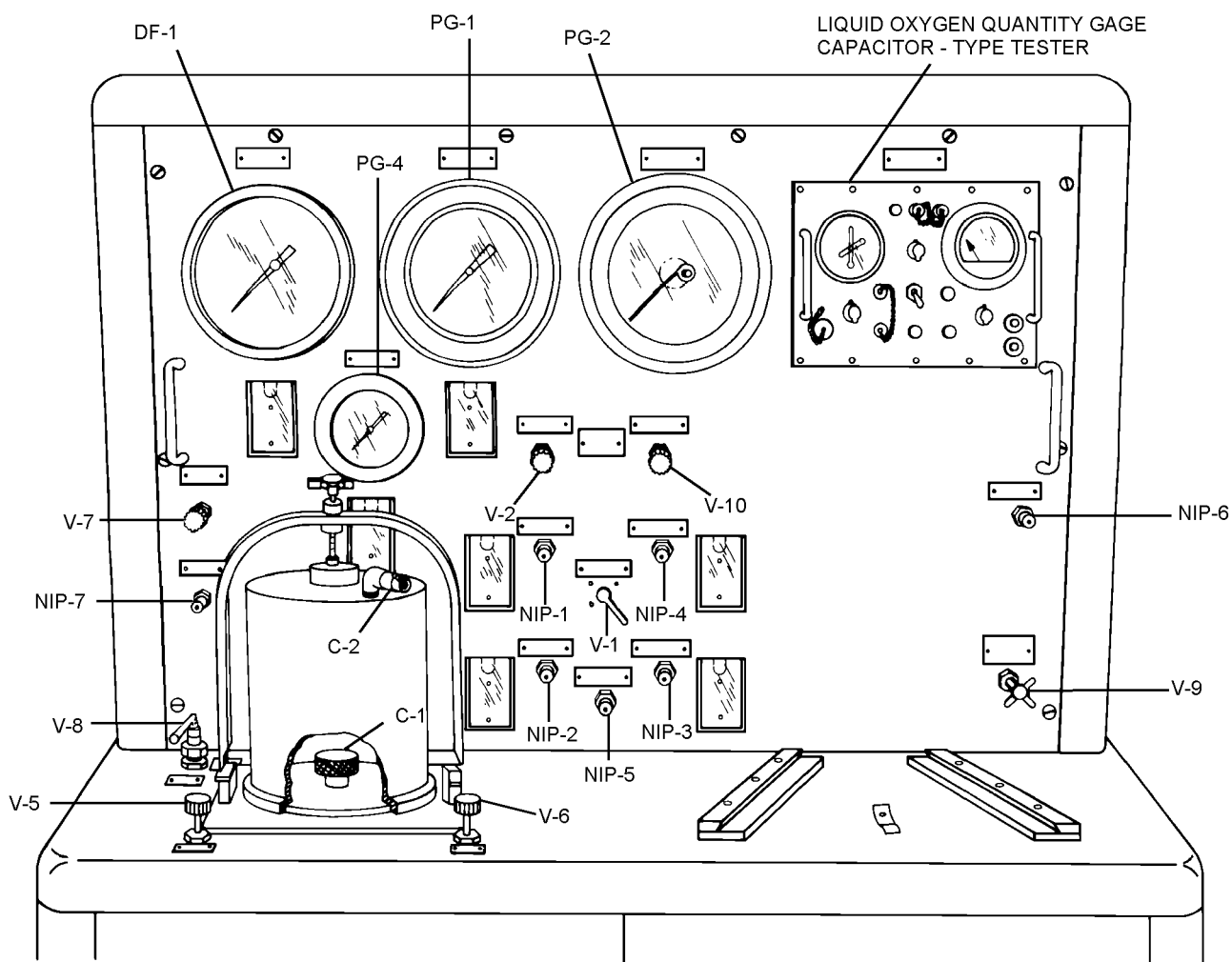
Any degree of leakage in the oxygen system requires corrective maintenance.

9. Reset reducer assembly.

CAUTION

Do not increase pressure above 150 psi.

10. Using valve (V-6) increase pressure until relief valve unseats.



C-1	BELL JAR BOTTOM COUPLING	PG-2	FLOWMETER INDICATOR GAGE
C-2	BELL JAR TOP COUPLING	PG-4	0 – 15 PSIG LOW PRESSURE TEST GAGE
DF-1	0 – 100" H ₂ O DIFFERENTIAL PRESSURE GAGE	V-1	FLOWMETER SELECTOR GAGE
NIP-1	0 – 0.25 LPM FLOWMETER CONNECTION	V-2	TEST PRESSURE GAGE TO BELL JAR VALVE
NIP-2	0 – 1 LPM FLOWMETER CONNECTION	V-5	SYSTEM BLEED VALVE
NIP-3	0 – 50 LPM FLOWMETER CONNECTION	V-6	OXYGEN SUPPLY VALVE
NIP-4	0 – 150 LPM FLOWMETER CONNECTION	V-7	DIFFERENTIAL PRESSURE BLEED VALVE
NIP-5	CONVERTER SUPPLY OUTLET CONNECTION	V-8	DIFFERENTIAL PRESSURE SHUT-OFF VALVE
NIP-6	SUPPLY TO CONVERTER CONNECTION	V-9	CONVERTER SUPPLY FLOW CONTROL VALVE
NIP-7	DIFFERENTIAL PRESSURE GAGE CONNECTION	V-10	TEST PRESSURE GAGE BUILD-UP AND FLOW VALVE
PG-1	0 – 160 PSIG TEST PRESSURE GAGE		

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Figure 10-12. Test Stand Model 59A120

NOTE

Unseating can be determined by listening and observing gage (PG-1) on test stand.

11. Repeat step 10 several times to establish a correct pressure. Relief valve shall unseat at 120 to 140 psi when pressure is increased, and reseal at 110 psi minimum when pressure is decreased. Once resealed, relief valve shall be leak tight, (no indication on PG-1 of pressure drop).

NOTE

Pressure may be reduced below opening pressure of the relief valve by closing valve (V-6) and opening valve (V-5).

12. Close valve (V-6) and bleed oxygen pressure from system by opening valve (V-5). All pressure is bled when gages (PG-1) and (PG-4) indicate zero pressure.

13. Close valve (V-5).

14. Ensure valve (V-2) is opened and all other test stand valves are closed.

15. Measure force required to disengage automatic oxygen release with a push/pull gage. Force required shall be 10 to 30 pounds and emergency oxygen system shall actuate and indicate 45 to 80 psi on gage (PG-1) on test stand. Reset reducer assembly.

16. Open valve (V-5), and ensure that all other test stand valves are closed.

17. Actuate cam on reducer to ensure positive flow through valve (V-5). Reset reducer assembly.

18. Open valve (V-8).

19. Slowly close valve (V-5), while observing gage (DF-1).

NOTE

Observe gage (DF-1) for two minutes to ensure no leakage. Any pressure rise indicates leakage in the reducer valve seat and requires corrective maintenance.

20. Close valve (V-8), open valve (V-5), and disconnect oxygen outlet hose from fitting (C-1).

21. Ensure all valves on the test stand are secured.

22. Connect oxygen outlet hose to fitting (NIP-6). Ensure that valve (V-10) is open and all other test stand valves are closed.

23. Connect test stand hose to fitting (NIP-5) and fitting (NIP-4).

24. Move valve (V-1) to the NIP-4 position.

25. Ensure that kit oxygen cylinder is filled with 1800 to 2000 psi.

26. Pull manual oxygen release. Oxygen pressure on gage (PG-1) shall indicate 45 to 80 psi.

27. Slowly open valve (V-9) to indicate 90 LPM on gage (PG-2). Oxygen pressure shall indicate 45 to 80 psi on gage (PG-1).

NOTE

When needle of cylinder pressure gage is between the E and F of REFILL, pressure is approximately 250 psi.

28. Observe emergency oxygen cylinder pressure gage and allow the system to decrease to 250 psi while maintaining 90 LPM flow and 45 to 80 psi pressure.

29. Close valve (V-9).

30. With zero flow indicated on gage (PG-2), pressure indicated on gage (PG-1) shall be 45 to 80 psi.

31. Reset reducer assembly.

32. Bleed oxygen pressure from system by opening valve (V-5) and (V-2). All pressure is bled when gages (PG-1) and (PG-4) indicate zero pressure.

33. Disconnect kit from test stand.

34. Secure test stand.

35. All areas where leak detection compound was applied shall be wiped thoroughly clean. Dry with lint-free cloth, filtered low pressure compressed air, or low pressure nitrogen.

36. Recharge emergency oxygen cylinder with 1800 to 2000 psi. Refer to [paragraph 10-41](#) for charging procedures.

10-41. PURGING AND CHARGING EMERGENCY OXYGEN SYSTEM. To purge and charge the emergency oxygen system proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Leak Detection Compound, Type I	MIL-L-25567
As Required	Nitrogen, Type I, Class 1, Grade B	BB-N-411
As Required	Aviator's Breathing Oxygen, Type I	MIL-O-27210
As Required	Cloth, Lint-free	MIL-C-85043 NIIN 00-044-9281

Support Equipment Required

Quantity	Description	Reference Number
1	Oxygen Purging Electric Heater	—
1	Shut-Off Valve	—
1	Pressure Regulator	—
1	Adapter, Filling (Optional)	21000-T130-1 (CAGE 53655)

WARNING

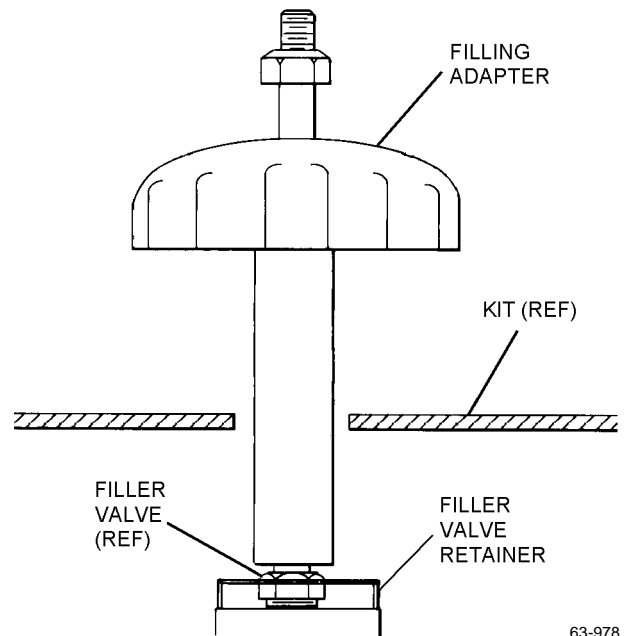
Servicing of emergency oxygen system shall be accomplished only after removal of survival kit from aircraft.

1. If survival kit assembly has not been removed from aircraft, remove in accordance with applicable maintenance manual.

NOTE

Use of filling adapter on SKU-12/A survival kits is optional.

2. Remove oxygen filler valve cap and connect filling adapter to filler valve.



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Step 2 - Para 10-41

WARNING

Do not release oxygen from the emergency oxygen system through filler valve or adapter. Releasing high pressure oxygen through restriction of filler valve will produce heat and may result in fire or explosion.

3. If necessary to deplete emergency oxygen system before purging or filling, release the pressure through the pressure reducer by pulling the emergency oxygen lanyard.

NOTE

If emergency oxygen system is contaminated or system has been empty for more than two hours, purging is required. However, if purging is not warranted, proceed to [step 10](#) for charging procedures.

4. Connect nitrogen source to filling adapter/filler valve, and close pressure reducer.

NOTE

If relief valve on Oxygen Purging Electric Heater will not allow 100 psi, raise pressure only to allowable limit.

5. Slowly pressurize to 100 psi with nitrogen at temperature of 110 to 130 degrees C (230 to 266 degrees F) using electric heater.

6. Turn off nitrogen source and deplete oxygen system.

7. Repeat [steps 5 and 6](#), twice.

8. With pressure reducer open, turn on nitrogen source and purge for 10 minutes at temperature of 110 to 130 degrees C (230 to 266 degrees F).

9. Turn off nitrogen source and disconnect.

10. Connect oxygen source to filling adapter/filler valve with suitable pressure regulator and shut-off valve.

WARNING

When resetting reducer cam ensure reducer cam is in the vertical (cocked) position and ensure cables and cable balls are not wrapped around reducer cam and jammed against inside of kit lid.

11. Reset pressure reducer cam and ensure reducer cam is in the vertical (cocked) position and cables and cable balls are not wrapped around reducer cam and jammed against the inside of the kit lid.

12. Slowly pressurize to 100 psi.

13. Deplete cylinder to 50 psi.

WARNING

Observe filling stages as rapid application of oxygen pressure creates heat which may result in fire or explosion. Allow no less than 3 minutes for each filling stage and 2-minute intervals for cooling between stages.

NOTE

If kit is to be stored, the emergency oxygen bottle shall be depleted or filled to 200 PSI (when needle on gage bisects E of REFILL). For shipping, fill or deplete to 25 PSI using the gage on the oxygen refill cylinder.

14. Charge emergency oxygen system in stages in accordance with [table 10-5](#) until supply pressure gage indicates correct pressure for existing ambient temperature ([table 10-6](#)).

Table 10-6. Ambient Air Temperature Vs Charging Pressures

Ambient Air Temperature		Charging Pressure
°F	°C	PSI
0	-18	1550-1750
10	-12	1600-1775
20	-7	1625-1800
30	-1	1675-1850
40	5	1700-1875
50	10	1725-1925
60	16	1775-1975
70	21	1800-2000
80	27	1825-2050
90	32	1875-2075
100	38	1900-2125
110	43	1925-2150
120	49	1975-2200
130	54	2000-2225

15. Loosen filling adapter (if installed) until all pressure is bled from high-pressure line. Remove filling adapter.

Do not use leak detection compound which is not clear and free of material/sediment or which has peculiar odors such as acetone or alcohol. Compound having any of these characteristics is considered contaminated and shall be disposed of.

NOTE

Alternate Fill Valve P/N 9120097-23 is coreless and has a maximum leakage rate of 1 cc/hr. This will be evident by very tiny bubbles passing through the top of the valve when leak detection compound is applied level to top rim. No leaks around threads are acceptable. If large bubbles are evident, contact survival kit FST for disposition.

16. Examine leak detection compound then apply around connection points of oxygen gage, reducer, and filler valve. Check for leaks. Then thoroughly wipe clean and dry with lint-free cloth, filtered low-pressure compressed air, or low pressure oxygen.

17. Reinstall oxygen filler valve cap on filler valve.

18. If the seat survival kit assembly was removed from the aircraft in [step 1](#), reinstall using the applicable aircraft maintenance manual.

Section 10-6. Maintenance**10-42. GENERAL.****WARNING**

Keep working area clean and free of oil, grease, and dirt. Do not attempt to perform any oxygen system component removal with the oxygen system pressurized.

10-43. This section contains procedures for troubleshooting, disassembly, cleaning, inspection of disassembled parts, repair or replacement of parts, assembly, and adjustment.

NOTE

Disassembly shall be only to extent necessary to perform required maintenance.

10-44. TROUBLESHOOTING.

10-45. When system failure or operating malfunctions are encountered, [table 10-7](#) will provide guidance in determining probable cause and remedy.

10-46. DISASSEMBLY OF SKU-12/A SEAT SURVIVAL KIT.

10-47. Disassemble kit using index numbers assigned to [figures 10-22 through 10-31](#) as a reference. Disassembly shall be only to the extent necessary to perform required maintenance.

Table 10-7. Troubleshooting

Trouble	Probable Cause	Remedy
Low or zero indication.	System empty.	Charge system (paragraph 10-41).
	Defective gage.	Bleed system. Replace gage.
	Leaking components.	Tighten connections or replace.
Relief valve leaking.	Defective valve.	Replace Relief Valve, P/N P103-673.
Relief valve does not operate within tolerance of 120 to 140 psi when simulated pressure is applied during test.	Defective or out-of-adjustment relief valve.	Adjust to meet required specifications (paragraph 10-68). If unable to adjust, replace relief valve.
No oxygen output with pressure reducer actuated.	Defective oxygen gage.	Bleed system, replace oxygen gage.
Oxygen system output pressure not within 45 to 80 psig limits.	Pressure reducer defective or out-of-adjustment.	Bleed system (paragraph 10-41) and adjust pressure reducer (paragraph 10-65).
Pulsating pressure at outlet port.	Pressure reducer defective.	Bleed system (paragraph 10-41) and replace pressure reducer (paragraph 10-60).
Oxygen system leaking; low pressure side of reducer.	Pressure reducer is improperly seated.	Bleed system (paragraph 10-41) and replace seat and long-cam reducer (paragraph 10-60).
Oxygen system leaking; high pressure side of reducer.	Loose or improper attachment of fittings.	Inspect all fittings for proper attachment with leak-tec.
Pressure reducer will not shut off.	Pressure reducer flange assembly out of adjustment.	Bleed system (paragraph 10-41) and adjust pressure reducer (paragraph 10-65).
Pressure reducer does not meet required flows.	Pressure reducer is out of adjustment.	Bleed system (paragraph 10-41) and adjust pressure reducer (paragraph 10-65).
Pull force to actuate emergency oxygen system is not within tolerance of 10 to 30 pounds.	Pressure reducer flange assembly out of adjustment.	Bleed system (paragraph 10-41) and adjust pressure reducer (paragraph 10-65).
	Cable broken.	Replace cable.
	Crushed cable/conduit assemblies.	Replace cable/conduit assembly.
Emergency oxygen does not actuate when manual release is pulled.	Crushed cable/conduit assembly.	Replace cable/conduit assembly.
	Reducer cam forced beyond vertical (cocked) position, canted or turned.	Reposition cam.

Table 10-7. Troubleshooting (Cont)

Trouble	Probable Cause	Remedy
Emergency oxygen does not actuate when manual release is pulled. (cont)	Cable may be wrapped around reducer cam and/or terminal balls jammed against inside of kit lid.	Inspect manual cable assembly and reposition.
		Inspect and adjust the automatic emergency oxygen release (paragraph 10-67).
Emergency oxygen does not actuate when automatic release is pulled.	Cable may be wrapped around reducer cam and/or terminal balls jammed against inside of kit lid.	Inspect and adjust the automatic emergency oxygen actuation (paragraph 10-67).
	Automatic actuation cable out-of-adjustment. Reducer cam forced beyond vertical (cocked) position, canted or turned.	
	Reducer cam forced beyond vertical (cocked) position, canted or turned.	Reposition cam and adjust the automatic emergency oxygen actuation (paragraph 10-67).
Emergency actuation lanyard coupling assembly loose.	Broken or missing spring.	Replace spring.
Loss of aircraft communications.	Broken or misaligned pins and sockets in hose connectors.	Perform electrical check (NAVAIR 13-1-6.3-1).
	Open or short circuit in oxygen hose wiring.	
Kit lid locks fail to release simultaneously	Lid locks out-of-adjustment.	Adjust locks (paragraph 10-66).
Pull force to actuate kit release mechanism is not within tolerance of 10 to 30 pounds.	Obstructions between upper and lower container mating surfaces.	Remove obstruction.
	Improper folding of liferaft assembly.	Refold liferaft assembly.

NOTE

Discard and replace all O-rings, seals, cotterpins, and Teflon sealing tape removed from oxygen connections during disassembly. Discard and replace any threaded inserts, rivets, rubber pads, seals, molding, or hook and pile fastener tape removed during disassembly of kit.

10-48. PRESSURE REDUCER ASSEMBLY. For disassembly and assembly procedures for the pressure reducer assembly, P/N 8720024-1, refer to [paragraph 10-60](#). For troubleshooting refer to [table 10-7](#) and for adjustments refer to [paragraph 10-64](#).

Support Equipment Required

Quantity	Description	Reference Number
1	SKU-12/A Oxygen Pressure Reducer Retainer Tool	—

10-49. CLEANING.

10-50. To clean the disassembled oxygen and non-oxygen components of the kit (except for cushions and fabric components) refer to NAVAIR 13-1-6.4-1.

10-51. CLEANING CUSHIONS AND FABRIC COMPONENTS. Clean seat, thigh support cushions, and all fabric components as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cleaning Compound	MIL-C-25769
As Required	Detergent, General Purpose	MIL-D-16791
As Required	Lint-free Cloth	MIL-C-85043 NIIN 00-044-9281

NOTE

If using cleaning compound (MIL-C-25769), combine one part compound to three parts water. If using general purpose detergent, follow directions on container.

1. Prepare detergent or cleaning compound (MIL-C-25769) solution.
2. Apply solution to soiled area with spray or sponge.
3. Allow solution to remain on surface for a few minutes, then scrub with soft brush or cloth.
4. Rinse surface thoroughly with water and wipe with cloth or sponge.

NOTE

Repeat [steps 1 through 4](#) until material is clean.

5. Repeat [step 4](#) until material is free of all solution.
6. Allow material to dry thoroughly.

10-52. INSPECTION OF DISASSEMBLED PARTS.

10-53. Inspect disassembled seat survival kit parts for distortion, corrosion, or other damage in accordance with [table 10-8](#). Inspect survival items in accordance with NAVAIR 13-1-6.5, Rescue and Survival Equipment, and NAVAIR 13-1-6.7-2, Aircrew Personal Protective Equipment (Clothing).

Table 10-8. Inspection

Component	Task
Survival Kit (Figures 10-22 and 10-23)	
Cushion Assembly and Thigh Support Cushions	Inspect for fabric damage and loose or broken stitching.
	Ensure that hook tape is firmly attached to cushion assemblies.
	Inspect ventilated cushion coupling for weak spring clip.
Dropline Assembly	Inspect boot for fabric damage and loose, broken or frayed stitching.
	Check dropline for material damage, loose, frayed or broken stitching.
Harness Assembly	Check harness assembly for retention pin damage and presence of locknut.
	Inspect aft-most hole serving as attachment for lug pin for elongation.
	Check webbing for wear, damage and for frayed, broken or loose stitching.
	Inspect adapter for obvious damage, corrosion, and wear.
	<u>Check force required for adjuster to release webbing. Maximum pull force shall not exceed 8 lbs. on yellow webbing tab.</u>
Release Handle Assembly	Check molded grip for cuts and breaks.
Raft Cover	Examine for damaged fabric and loose, broken or frayed stitching.
Equipment Container Assembly	Check slide fastener for security of attachment and trouble-free operation.
	Inspect container material for damage and for loose, broken or frayed stitching.
Survival Items	Inspect in accordance with NAVAIR 13-1-6.5.
Lid Assembly (Figure 10-24)	
Lid Assembly	Inspect for cracks, damage to fiberglass and attached extruded metal lip.
Pile Tape Fasteners	Check all tape fasteners for secure attachment to fiberglass lid
Plug and Cap Assembly	Inspect chain, plug and cap for damage.
	Ensure that chain is securely riveted to plug and cap.
Carrying Handle	Check webbing for wear damage, and for frayed, broken or loose stitching.
Oxygen Cylinders	Inspect end fittings for damage.
	Check cylinders for bulges, cracks, nicks, gouges or scratches which penetrate metal.
Manual Oxygen Release	Inspect handle and cable for obvious defects.

Table 10-8. Inspection (Cont)

Component	Task
Lid Assembly (Figure 10-24) (cont)	
Automatic Oxygen Release	Check cable housing for obvious damage and secure attachment to conduit.
	Inspect knurled end fitting.
	Inspect coupling assembly for spring security.
	Inspect that the coupling assembly has not separated from the rest of the cable.
Cable Assemblies	Check terminal balls for secure attachment on respective cables.
	Examine cables for deformation, broken strands or other obvious defects.
	Check conduits for loose or cracked joints, cracked tubing, flattened, dented or out of round tubing diameters.
Check Valve	Inspect for damaged threads and rounded hexagon flats.
Lid Latches	Check for damage and misalignment.
Manifold Assembly (Figure 10-25)	
Check Valve	Inspect for damaged threads and rounded hexagon flats.
Relief Valve	Inspect for damaged threads and rounded flats.
Manifold Body	Inspect manifold for thread damage.
Reducer Assembly (Figure 10-26)	
Oxygen Gage	Check gage for broken or missing glass and broken or jammed needle.
Filler Valve Assembly	Inspect for damaged threads, rounded hexagon flats and condition of valve core (as applicable).
Long-Cam Reducer	Visually inspect cam resetting slot for galling. Examine pinholes for wear and damage.
Body	Check for gouges and other obvious damage. Inspect threads for damage.
Internal Hardware	Inspect for damage, corrosion and/or defects.
Diaphragm	Examine for pinholes, wear or damage.
Container Assembly (Figure 10-27)	
Lower Container Assembly	Check for cracks and damage to fiberglass and attached extruded metal lip. Ensure that extruded metal lip is secured to fiberglass and there is no separation between parts. If fiberglass is cracked, refer to NAVAIR 01-1A-21 for repair procedures.
Handle Protector	Examine protector for obvious defects and security of attachment.

Table 10-8. Inspection (Cont)

Component	Task
Radio Bracket Assembly	Check bracket for secure attachment to container. Examine hook and pile tapes for security of attachment.
Pile Tape	Check all tape fasteners for secure attachment to fiberglass container.
Pad	Examine pad for general condition and security of attachment.
Lock Assemblies (Figures 10-28 and 10-29)	
Cover	Check for distortion and cracks in areas of holes.
All Locknuts and Nipples	Inspect for cracks and thread damage.
	Check for rounded corners of hexagon flats.
Housing	Inspect holes and threads for damage.
Slide	Check slides for distortion and for damage to ends which engage lid latches.
Conduits and Cables	Check for broken, bent or crushed conduits.
	Inspect cables for damaged or broken strands; check security of terminal balls on cables.
Cable Release Assembly (Figure 10-30)	
Cover	Check for distortion and cracks in area of holes.
Housing	Inspect holes and threads for damage.
Lid Lock Release	Check for damage, corrosion or any other defects.

10-54. REPAIR AND REPLACEMENT.

10-55. REPAIR. Repair of individual components within any assembly is authorized only in accordance with procedures outlined in this manual. All authorized repairs performed shall be documented by making necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

10-56. Repair of Cushion Assemblies. Repair of the cushion assemblies is limited to sewing of loose or open seams, broken stitches, and small rips and tears.

10-57. REPLACEMENT. All individual components that fail to pass inspection shall be replaced except where repair procedure is indicated. Refer to source code listing (SM&R CODE) in the [Numerical Index](#) of the Illustrated Parts Breakdown to aid in determining replaceable components. All adjustable components or assemblies that fail to pass respective tests shall first be adjusted to determine if required specifications can be met.

10-58. (East/West) Replacement of Lapbelt Adjuster. To replace missing or damaged lapbelt adjuster on the restraint harness, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Adjuster, Lapbelt	P/N 184C100-1 (CAGE 30941)
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

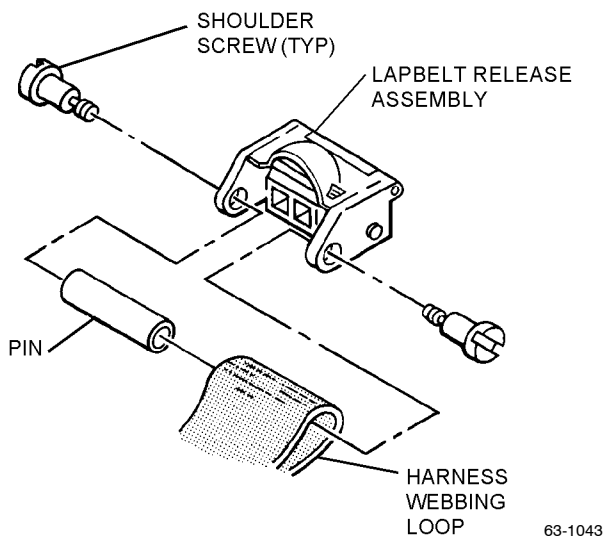
Notes: 1. Use any contrasting color.

NOTE

Replacement procedures can be used on both right and left side restraint harness assemblies.

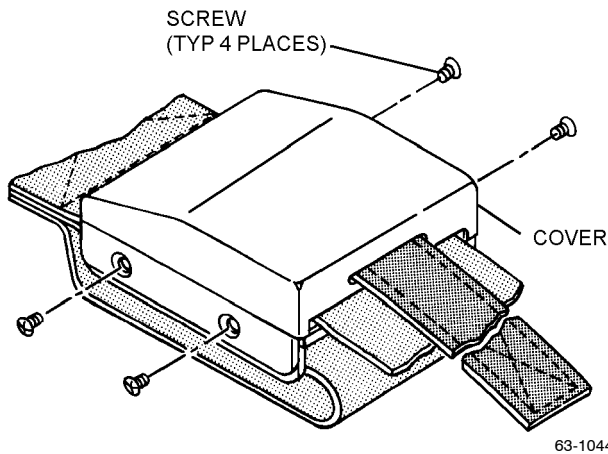
1. Remove existing lapbelt adjuster from restraint harness as follows:

a. Remove lapbelt release assembly by removing two shoulder screws. Pull release assembly away from webbing, and slide pin out of harness webbing loop. Retain all parts.



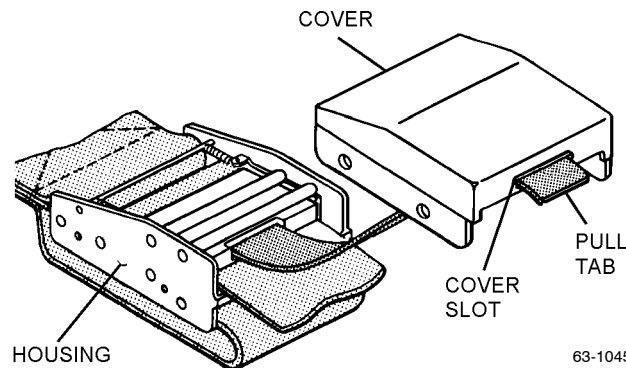
Step 1a - Para 10-58

b. Remove four screws (two on each side) from cover of lapbelt adjuster assembly.



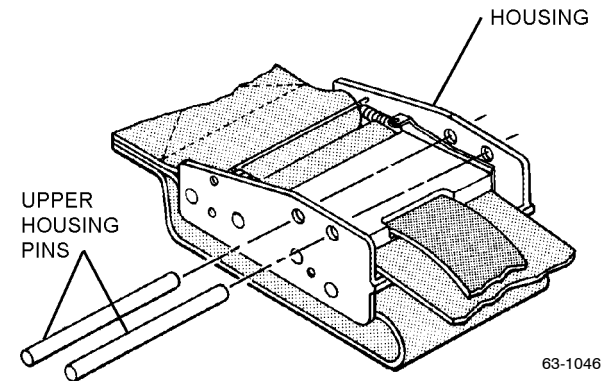
Step 1b - Para 10-58

c. Remove cover from lapbelt adjuster housing, and slide pull tab through cover slot.



Step 1c - Para 10-58

d. Slide upper housing pins out of housing.

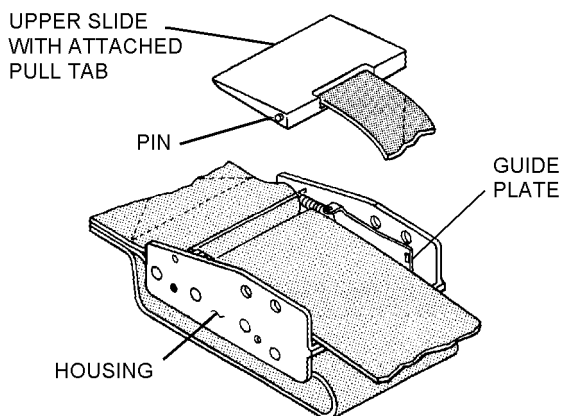


Step 1d - Para 10-58

NOTE

Slides are held to guide plates by pins. Pull slide up so guide plates are above edge of housing, and rotate slide out of guide plates.

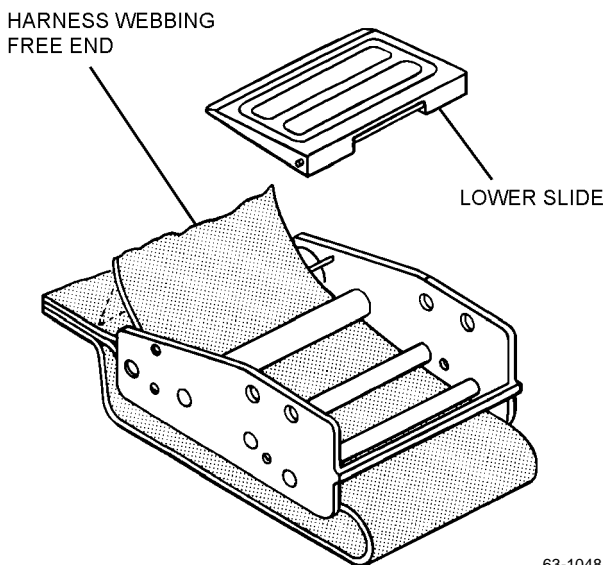
e. Remove upper slide with attached pull tab.



63-1047

Step 1e - Para 10-58

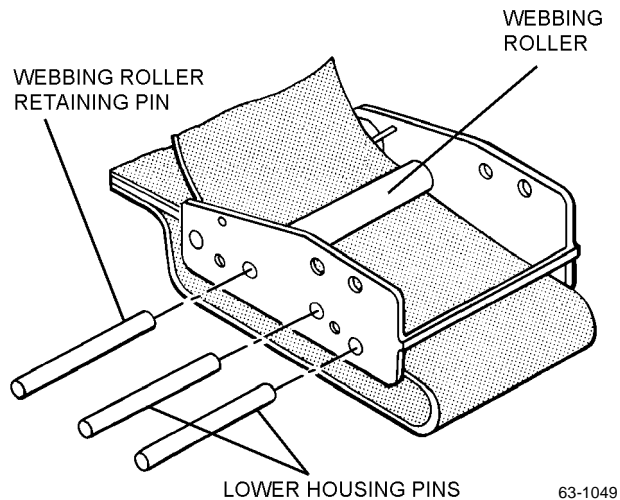
f. Lift free end of harness webbing, and remove lower slide.



63-1048

Step 1f - Para 10-58

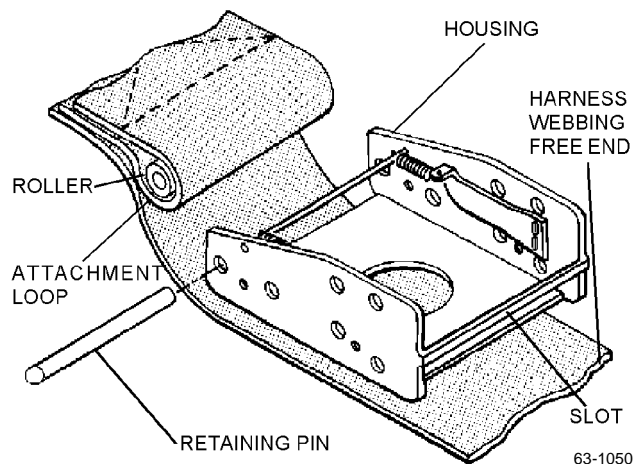
g. Position guide plates up and out of way. Remove two lower housing pins and webbing roller retaining pin. Webbing roller will fall away.



63-1049

Step 1g - Para 10-58

h. Pull free end of harness webbing through slot in housing. Remove pin retaining harness webbing attachment loop roller. Housing will fall away.



63-1050

Step 1h - Para 10-58

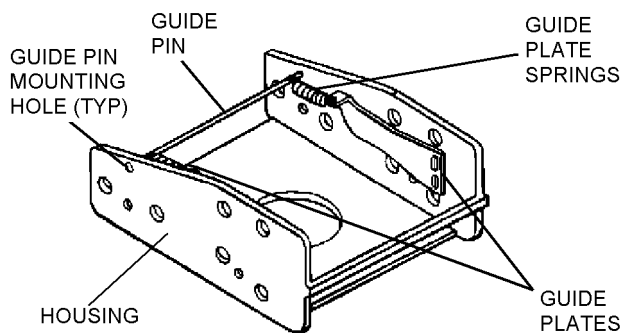
NAVAIR 13-1-6.3-2

2. Install new lapbelt adjuster as follows:

NOTE

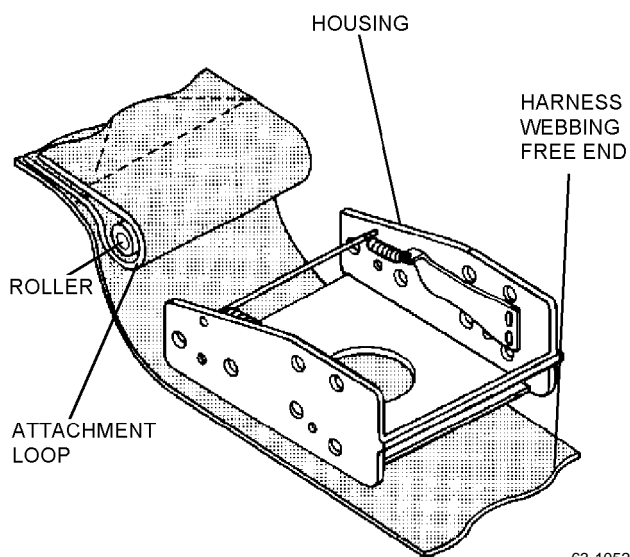
The six pins (two retaining and four housing) are interchangeable. The two rollers are also interchangeable.

a. If required, slide guide plate springs onto guide pin; ensure guide plates are positioned correctly. Install assembly into adjuster housing guide pin mounting holes.



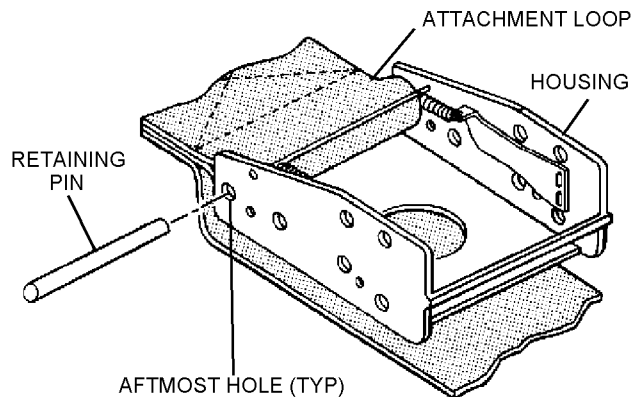
Step 2a - Para 10-58

b. Insert roller into attachment loop of harness webbing. Place adjuster housing on top of free end of harness webbing so that aft end of housing faces attachment loop.



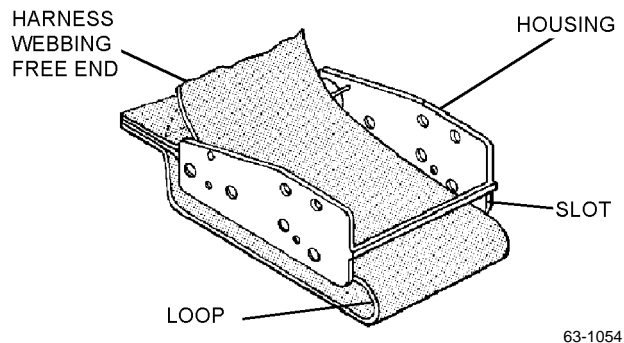
Step 2b - Para 10-58

c. Position housing onto attachment loop and roller. Align hole through roller with aftmost holes in housing, and install retaining pin.



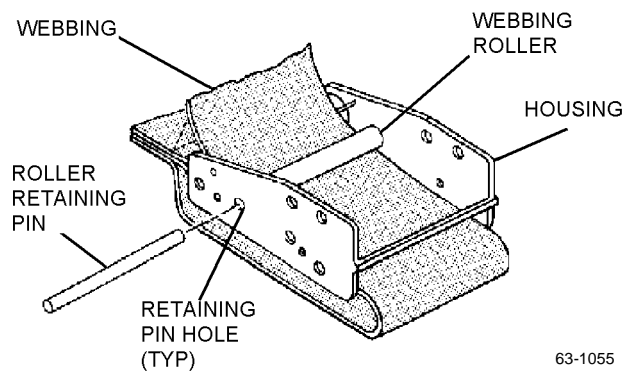
Step 2c - Para 10-58

d. Fold free end of webbing back towards housing. Insert end through slot in housing to form loop in webbing forward of adjuster. Guide plates may be positioned up and back to avoid any interference.



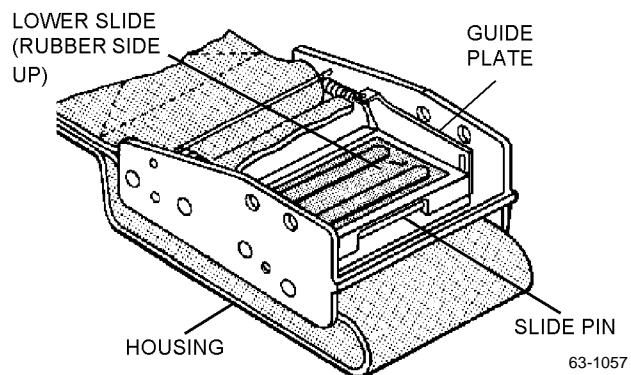
Step 2d - Para 10-58

e. Install webbing roller into housing on top of webbing. Position roller to align with proper holes in housing, and insert roller retaining pin.



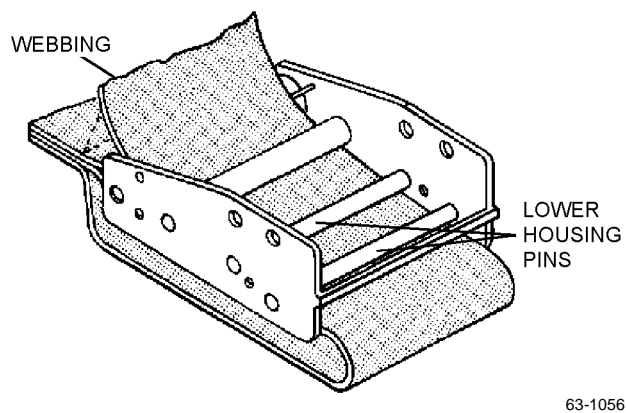
Step 2e - Para 10-58

g. Position guide plates into housing on top of lower housing pins; install lower slide rubber side up. Ensure slide pin is correctly positioned into lower slots of guide plates.



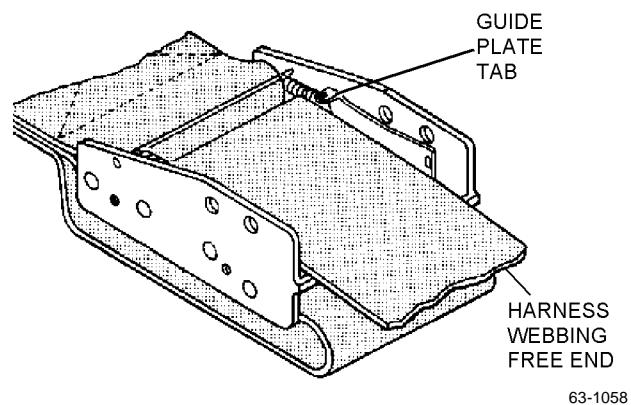
Step 2g - Para 10-58

f. Insert lower housing pins; ensure pins are resting on top of webbing.



Step 2f - Para 10-58

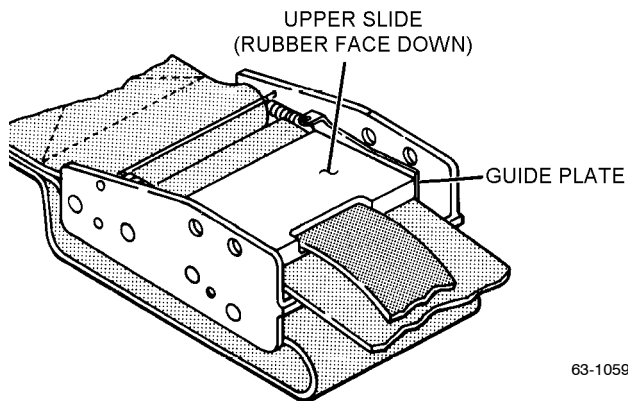
h. Position harness webbing free end under tabs of guide plates, and lay webbing down over lower slide.



Step 2h - Para 10-58

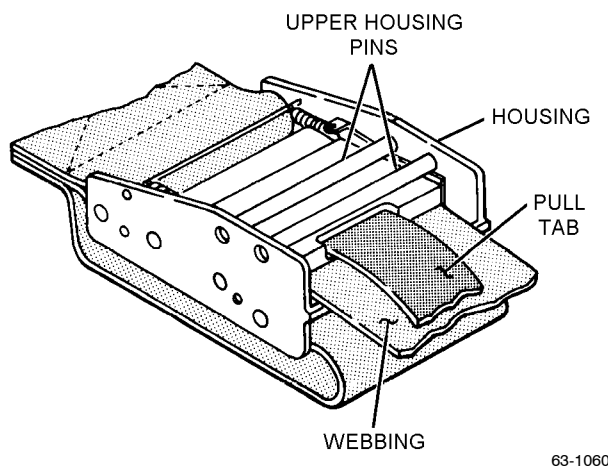
NAVAIR 13-1-6.3-2

i. Install upper slide, rubber face down. Ensure lower slide does not come out of place. Ensure slide pins sit securely in slots of guide plates.



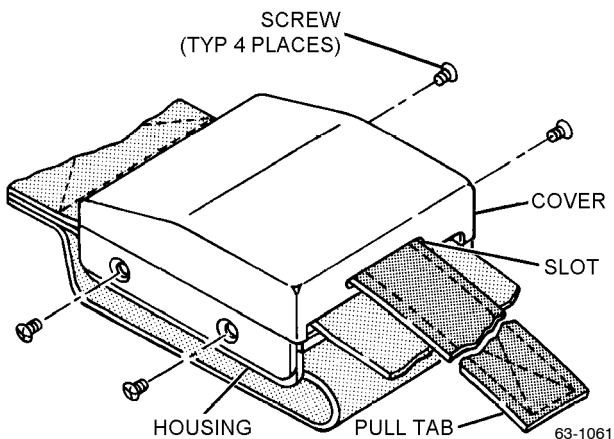
Step 2i - Para 10-58

j. Install upper housing pins. Ensure slides operate correctly; pull on pull tab to check simultaneous movement of slides. Webbing shall slide with ease through adjuster in either direction.



Step 2j - Para 10-58

k. Insert pull tab from inside out, through slot in cover. Place cover on housing and align four screw holes. Apply sealing compound to threads of four screws, and secure cover to housing.



Step 2k - Para 10-58

3. Apply sealing compound to threads of two shoulder screws, and install lapbelt release assembly removed in [step 1a](#).

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

10-59. Deleted.

Pages 10-51 thru 10-56 - Deleted.

10-60. Replacement of Pressure Reducer Assembly, P/N 8720024-1. Replacement of the Pressure Reducer assembly, P/N 8720024-1 shall be accomplished only if all adjustments and troubleshooting have failed.

1. If the oxygen pressure reducer assembly fails an inspection, refer to [paragraph 10-41](#) for appropriate procedures on depleting oxygen from the emergency oxygen system and continue with the following steps then to [paragraphs 10-61 thru 10-65](#) for disassembly, adjustments and assembly. For troubleshooting, refer to [table 10-7](#).

WARNING

Do not disassemble without completely depleting the emergency oxygen system of oxygen.

2. To partially remove pressure reducer and oxygen cylinder from lid assembly, use the following steps.

WARNING

All disassembly shall be accomplished in a clean, oil free environment. Retain all oxygen parts in a clean plastic bag.

a. Remove cotter pin (2, [figure 10-26](#)) from long cam-reducer (1) and disengage actuation cable terminal balls from long cam-reducer.

b. Disengage actuation cable conduits from bracket (12, [figure 10-26](#)), by loosening the self-locking hex nuts (92 and 60, [figure 10-24](#)).

NOTE

Replacement of the conical seal washer, P/N VSF1015C3B, shall be accomplished each time the cylinder-to-cylinder tube has been disconnected.

c. Disconnect cylinder-to-cylinder tube assembly (1, [figure 10-24](#)).

d. Disconnect tube assembly (21, [figure 10-24](#)) from check valve (26, [figure 10-26](#)).

e. Remove pressure reducer attaching screws (31, [figure 10-24](#)), washers (32), and stand-offs (33).

f. Remove cushioned clamp assemblies (35 and 40, [figure 10-24](#)) and cushion clamp assemblies (40).

NOTE

If you are replacing the pressure reducer, continue with the following steps. If you are troubleshooting and adjusting the pressure reducer, refer to [table 10-7](#) and [paragraph 10-64](#).

g. Remove pressure reducer and oxygen cylinder assembly from lid assembly.

h. Cap open ends of tube assemblies.

i. Remove pressure reducer from oxygen cylinder and install dust caps on all ports.

j. Install new pressure reducer in reverse order as in the removal procedure ([paragraph 10-60](#)). Perform functional pressure check on reinstalled pressure reducer in accordance with [paragraph 10-40](#).

10-61. DISASSEMBLY OF THE EMERGENCY OXYGEN REDUCER ASSEMBLY. Disassemble only as far as required to perform adjustments. Refer to [paragraph 10-64](#) for adjustments and [table 10-7](#) for troubleshooting.

NOTE

The tamper dot on the Oxygen Hose Assembly shall be applied to the fitting in a manner which provides easy identification for inspection purposes when the seat kit is installed in the seat.

Use any contrasting color when applying tamper dots to oxygen fittings.

10-62. Disassemble using the index numbers of [figures 10-22 through 10-31](#) as a reference. Assemble in reverse order of disassembly. After nuts and fittings are properly torqued (refer to [Appendix B](#)), apply tamper dots to all oxygen fittings shown on [figures 10-22 through 10-31](#) using sealing compound (MIL-S-22473). Torque value for inlet tubing connector on oxygen hose assembly shall be 90 ± 10 lb-in. Torque value for outlet tubing connector on oxygen hose assembly shall be 125 ± 20 lb-in. Apply sealing compound (MIL-S-22473) to 50% of threads on parts indicated in Illustrated Parts Breakdown. Prior to applying sealing compound, wipe off any contaminants with cloth moistened with water.

Materials Required

Quantity	Description	Reference Number
3	Clean plastic bags	MIL-B-117 NIIN 00-334-4120
As Required	Nitrogen, Type I, Class I, Grade B	B-N-411
1	Flow Rater, 0-150 RPM Range	—
As Required	Krytox 240 AZ, Type I	MIL-G-27617 NIIN 00-007-4384
As Required	Neoprene Adhesive	MMM-A-121
As Required	Structural Adhesive	—
As Required	Tees, Tubing, Fittings	—
2	Cap Screws, 10 x 32	—
As Required	Sealing Locking, and Retaining Compound, Grade B, Type B	MIL-S-22473 NIIN 01-163-2339 (Note 1)
As Required	Sealing Locking, and Retaining Compound, Grade B	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

Support Equipment Required

Quantity	Description	Reference Number
1	Locally Manufactured Oxygen Pressure Reducer Retainer Tool (refer to paragraph 10-79)	—
1	7/64 Allen Wrench	—
1	Small Pair of Tweezers	—
1	Test Gage, 0-160 PSI Range	—
1	Dia Indicator Depth Gage	D412.5
3	On-Off Valves	—
1	Water Beaker	—

NOTE

Retain all disassembled parts in a clean plastic bag (MIL-B-117). Mark each plastic bag according to each assembly disassembled.

1. Disassembly of the Flange Assembly. All index numbers refer to [figure 10-26](#), unless otherwise indicated.

a. Remove the four self-locking screws (13) that secure the bracket (12) and flange assembly (10) to the oxygen reducer housing assembly (22), using a 7/64 Allen wrench. Retain the four self-locking screws and reducers bracket.

NOTE

Set diaphragm aside separately. Do not place in plastic bag with hardware.

b. Carefully remove and retain the diaphragm (14) from the top of the oxygen reducer housing assembly.

c. Using a 1/4 inch flat tip screwdriver, insert into slot on the side of the long cam-reducer (1). Turn curved side of the long cam-reducer so it is facing down and remove cotter key (4) from the straight head pin (3). Discard cotter key.

NOTE

Removal of straight pin will cause piston and spring to fall away from bottom of flange assembly. Therefore, keep the flange assembly close to table surface.

Replace long-cam reducer if reducer assembly is leaking, with P/N 767100-1. If flange assembly is not leaking, place long cam-reducer in plastic bag, after step d.

d. Remove straight head pin (3) from the long cam-reducer. Retain straight head pin, long cam-reducer, piston and spring.

NOTE

Not all flange assemblies will contain spacers. These are necessary for leakage and pull force adjustments.

e. Remove and retain the slotted spacer (5), and all belleville(s) (6), and spacer(s) (7).

NOTE

Refer to fabrication [paragraph 10-79](#), for the manufacturing of the oxygen pressure reducer retainer tool.

f. Using the locally manufactured pressure reducer retainer tool, insert the three prongs of the retainer tool into the three holes on the top of the retainer (8). Insert 7 inch rod through hole on the side of the retainer tool to create a handle. Remove retainer and retain.

2. Disassembly of the Oxygen Reducer Housing Assembly. Refer to [figure 10-26](#) and troubleshooting

[table 10-7](#) to ensure disassembly is necessary and to what extent.

a. Remove plunger (15) from reducer housing cavity (22) and retain.

NOTE

Once the retainer has been removed keep the housing reducer assembly upright. The seat, ball bearing, retainer, and spring are free to fall out from the reducers housing.

b. Using a 3/8 inch flat tip screwdriver, remove retainer (16) from reducer housing (22) and retain.

c. Placing a cupped hand over open cavity of the reducer housing to prevent losing of seat (17), ball bearing (18), retainer (20) and helical compression spring (21). Slowly invert reducer housing and empty contents in hand and retain.

NOTE

Replace the O-ring packing, initially once, even if repeated disassembly and assembly occurs due to troubleshooting and adjustments.

Do not nick, gouge, or scratch the inside area of the oxygen reducer housing.

d. Carefully remove the O-ring packing (18) using a small pair of tweezers. Discard O-ring packing.

10-63. ASSEMBLY OF THE OXYGEN REDUCER HOUSING AND FLANGE ASSEMBLIES. Refer to [figures 10-24](#) and [10-26](#). All parts shall be cleaned in accordance with NAVAIR 13-1-6.4-1 and inspected according to [table 10-8](#). The assembly of the oxygen reducer housing and flange assemblies shall be accomplished in the reverse order of disassembly, ensuring any items which had been discarded are replaced.

10-64. ADJUSTMENTS.

10-65. ADJUSTMENTS TO THE PRESSURE REDUCER ASSEMBLY.

1. Adjustments are needed when the pull force is not between 10 to 30 pounds and/or the emergency oxygen system when actuated does not read between 45 to 80 psi indicated on test stand gage (PG-1). Refer to [paragraph 10-61](#) for disassembling of the pressure reducer assembly. Disassemble only as far as needed in order to perform adjustments.

WARNING

Ensure all emergency oxygen has been completely depleted from the oxygen system.

- a. Disassemble to the retainer (8, [figure 10-26](#)) in the flange assembly (10), ensuring the three hole retainer is visible.
- b. Using the oxygen pressure reducer retainer tool (refer to [paragraph 10-79](#)), adjust the retainer clockwise to increase pressure and counterclockwise to decrease pressure (1/4 turn is approximately 10 psi).
- c. Various thickness spacers (P/N 767902-1, -2, -3, -4, -5, -6) (7), will need to be added between the belleville washers (6) and slotted spacers (5). Add approximately one 0.010 inch spacer for every 1/4 turn that the retainer was adjusted to prevent reducer seat leakage.
- d. Reassemble reducer in reverse order. Belleville washers should be installed with their concavity opposing one another.
- e. Verify the performance of the adjusted pressure reducer and ensure the pressure reducer passes all of the functional checks.

WARNING

Before repeating steps a through f, ensure the emergency oxygen bottle has been depleted of oxygen.

- f. If pressure reducer leaks after the adjustment procedures are performed and/or the actuation pull force is not within allowable limits, repeat [steps a through e](#) several times until the leakage stops and the pull forces fall within allowable limits. If leakage cannot be stopped, after several adjustments have been made, follow procedures given in the following [step 2](#) and utilize components depicted on the alternate pressure reducer view in [figure 10-26](#).
- 2. Alternate adjustment procedure. Refer to [paragraph 10-61](#) for reducer disassembly procedures. Disassemble pressure reducer only as needed to replace

the ball bearing (19) and retainer (20) with ball bearing (19A).

- a. After removal of ball bearing (19) and retainer (20), replace both parts with ball bearing (19A) by placing it directly on top of the helical spring (21).
- b. Reassemble pressure reducer according to [paragraph 10-63](#).

NOTE

Adjustments may be required and need repeating several times in order for the pressure reducer to pass it's functional test. Refer to [paragraph 10-64](#) for adjustment procedures.

- c. Perform functional test in accordance with [paragraph 10-63](#).
- d. If the altered pressure reducer fails its functional test after repeated adjustments, remove and replace with a new pressure reducer in accordance with [paragraph 10-60](#).

10-66. ADJUSTMENT OF LOCKS AND LID LOCK RELEASE ASSEMBLIES. If the lid locks fail to release, or to release simultaneously, adjust lid lock assembly using the following procedures.

Materials Required

Quantity	Description	Reference Number
As Required	Sealing, Locking, and Retaining Compound, Grade A	MIL-S-22473 NIIN 00-081-2339 (Note 1)

Notes: 1. Use any contrasting color.

NOTE

The lower container assembly must be positioned so the rear of the container is toward the technician with the manual release handle to his right.

- 1. Adjust the right side lid lock assembly (same side as manual release assembly) as follows:
 - a. Remove attaching screws and remove cover plates from both the right and left lid lock assemblies.

NOTE

Tension springs controlling both left and right assemblies are located in the left lid lock assembly.

b. Using a 1/4-inch open-end wrench, hold cable conduit nut steady while adjusting the adjustment nut using a 5/16-inch open-end wrench. Turn adjusting nut clockwise to move housing back to tighten (increase tension) and turn nut counterclockwise to move housing forward to loosen (decrease tension) (figure 10-13).

NOTE

The conduit nut is a welded component of the conduit tubing.

c. When desired position and release timing is achieved, reinstall right lid lock assembly cover plate. Apply sealing compound (MIL-S-22473) to approximately 50% of threads of attaching screws, install and tighten.

NOTE

The cover plate is installed with the beveled edge placed to the bottom and facing the inside of the container assembly.

2. After right side lid lock assembly is adjusted, adjust left side lid lock assembly (side opposite manual release assembly) as follows:

a. Using 1/4-inch open-end wrench, hold cable conduit nut steady while adjusting the adjustment nut using a 5/16-inch open-end wrench. Turn adjusting nut counterclockwise to move housing forward to tighten (increase tension) and turn nut clockwise to move housing back to loosen (decrease tension).

NOTE

The conduit nut is a welded component of the conduit tubing.

b. When desired position and lid lock release timing has been achieved, reinstall left lid lock assembly cover plate. Apply sealing compound (MIL-S-22473) to approximately 50% of threads of attaching screws, install and tighten.

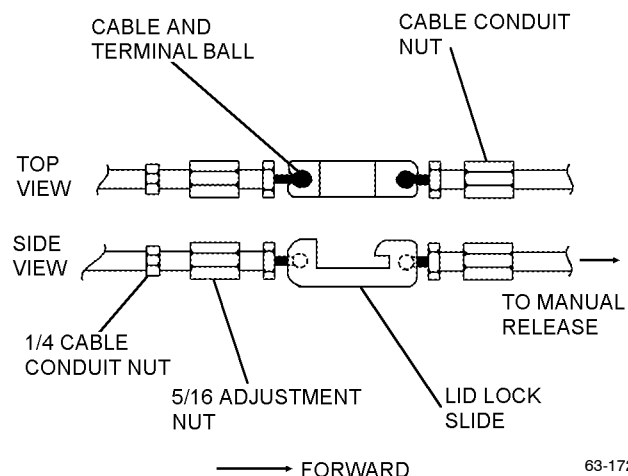
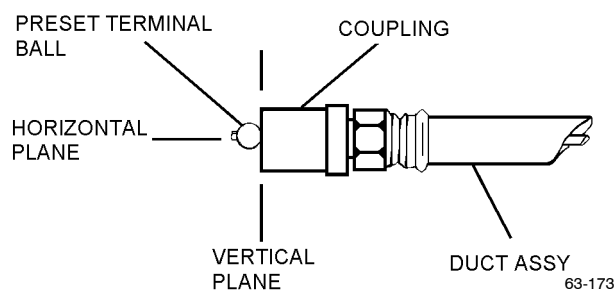


Figure 10-13. Lid Lock Assembly Adjustment

10-67. ADJUSTMENT OF AUTOMATIC EMERGENCY OXYGEN ACTUATION CABLE. Inspect and adjust the automatic emergency oxygen actuation cable as follows:

1. Inspect coupling end of cable to determine if cable terminal ball is properly positioned as preset by manufacturer.

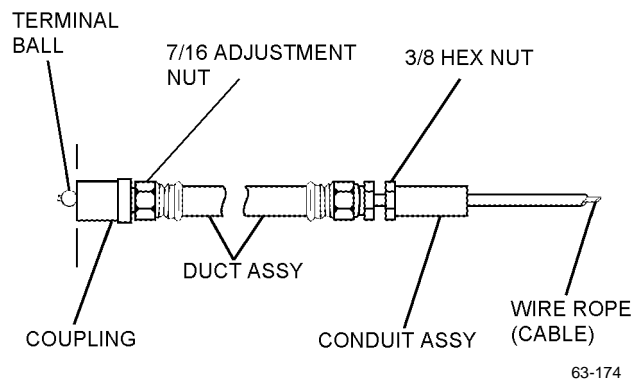


Step 1 - Para 10-67

2. If terminal ball protrudes too far out of coupling or does not protrude far enough to permit coupling with the lanyard assembly, adjustment is necessary.

3. Using 3/8-inch open-end wrench, loosen hex nut (61, figure 10-24) on conduit assembly by turning clockwise.

4. Using 7/16-inch open-end wrench, adjust duct assembly by turning adjustment nut clockwise to shorten or counterclockwise to lengthen duct assembly.



Steps 3 and 4 - Para 10-67

5. When actuation cable is properly adjusted as evidenced by position of terminal ball in relation to coupling, tighten 3/8-inch nut on conduit assembly by turning counterclockwise.

6. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

10-68. ADJUSTMENT OF RELIEF VALVE. If the relief valve fails to unseat within the 120 to 140 psi tolerance, adjust the valve as follows:

Support Equipment Required

Quantity	Description	Reference Number
1	Relief Valve Adjustment Tool	Fabricate IAW paragraph 10-76
<p>1. Bleed oxygen pressure to zero and remove relief valve.</p> <p>2. Adjust the valve unseating pressure by turning the pressure nut clockwise to increase relief valve pressure or counterclockwise to decrease pressure (figure 10-14).</p>		

NOTE

Turn in incremental adjustments of 1/2 (± 1/4) turns.

3. Reinstall oxygen relief valve.
4. Perform functional check in accordance with [paragraph 10-40](#).

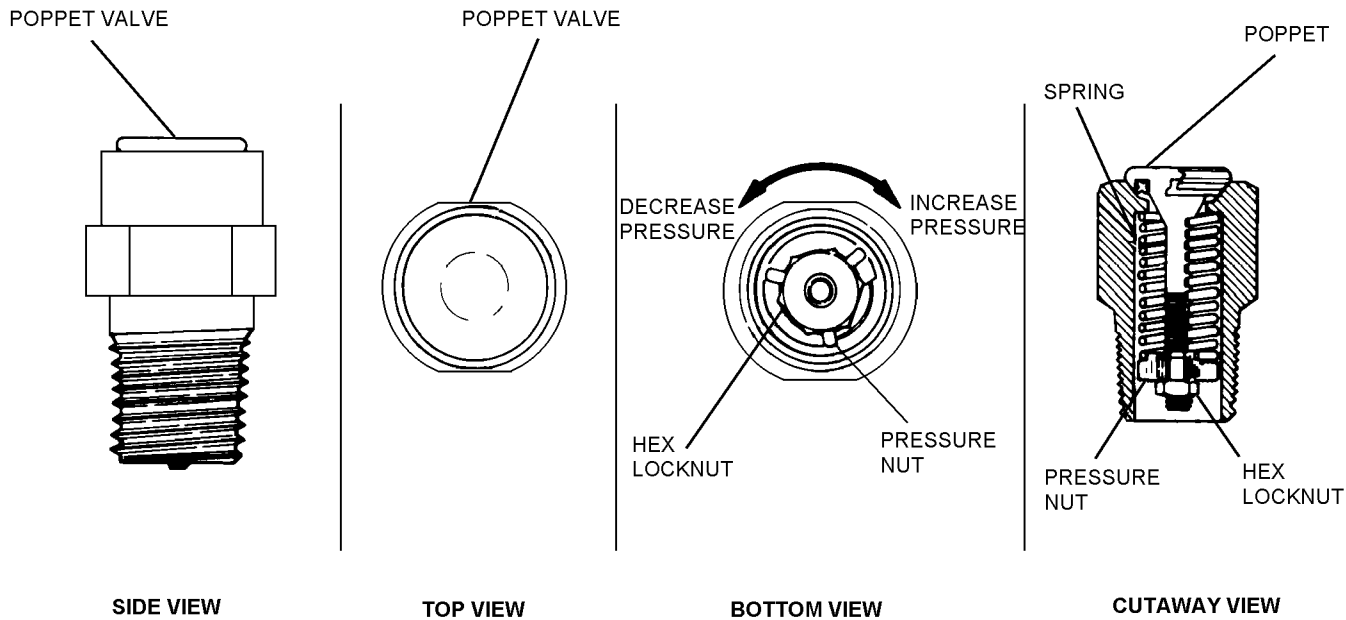


Figure 10-14. Adjustable Relief Valve

Section 10-7. Fabrication

10-69. GENERAL.

10-70. This section contains instructions for fabrication of tools and components that can be manufactured by local maintenance activities.

10-71. DROPLINE. To fabricate a dropline, proceed as follows:

1. Lay out webbing and position identification yarn on top before proceeding.

2. Construct a dropline in accordance with [figure 10-15](#).

3. Sear exposed ends of webbing.

4. All stitching shall be ASTM-D-6193, Type 301, 8 to 10 stitches per inch, and backstitch 1/2 inch minimum.

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, 3/4-Inch, Yellow	MIL-W-5625 NIIN 00-753-6531
As Required	Thread, Nylon, Type I, Class A, Size FF, White	V-T-295 NIIN 00-267-3024

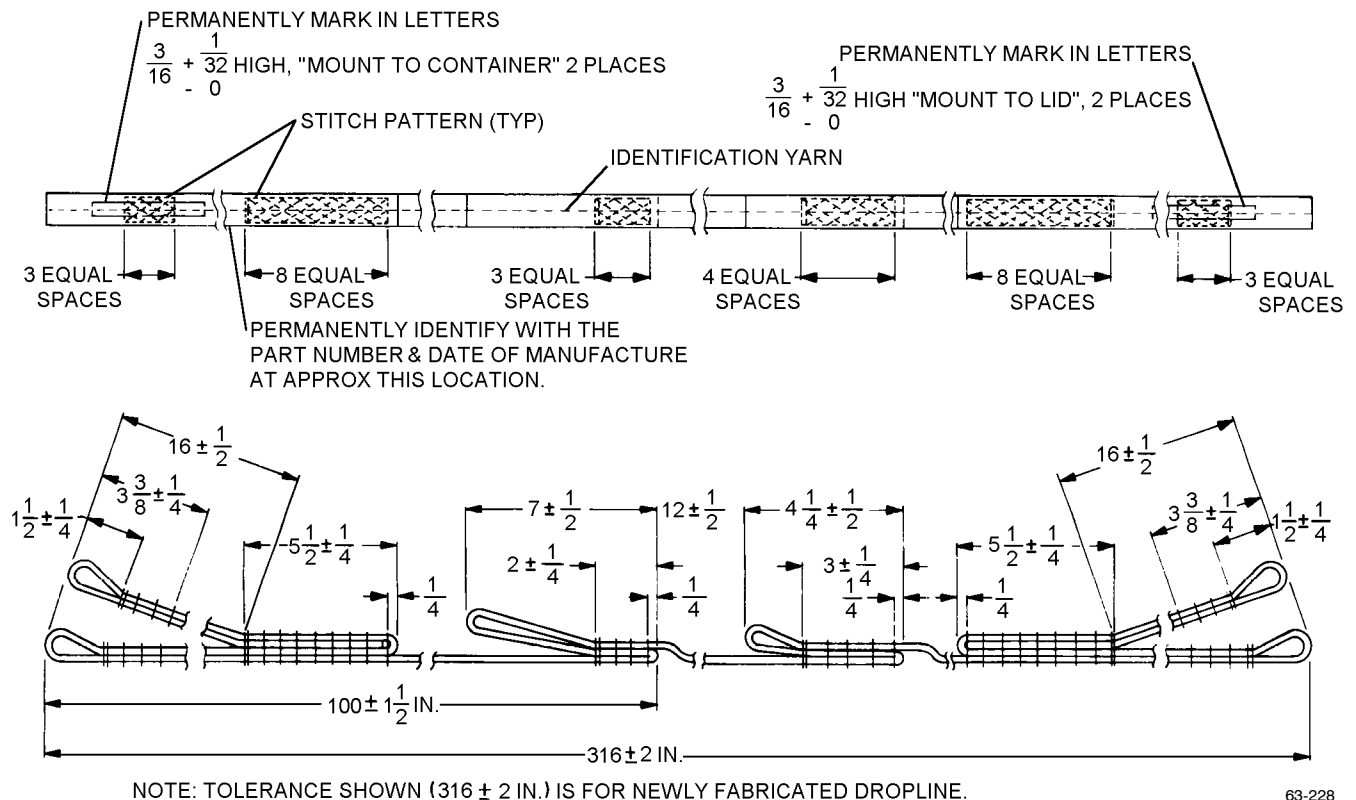


Figure 10-15. Dropline

10-72. T-WRENCH. Fabricate T-wrench from steel stock in accordance with figure 10-16.

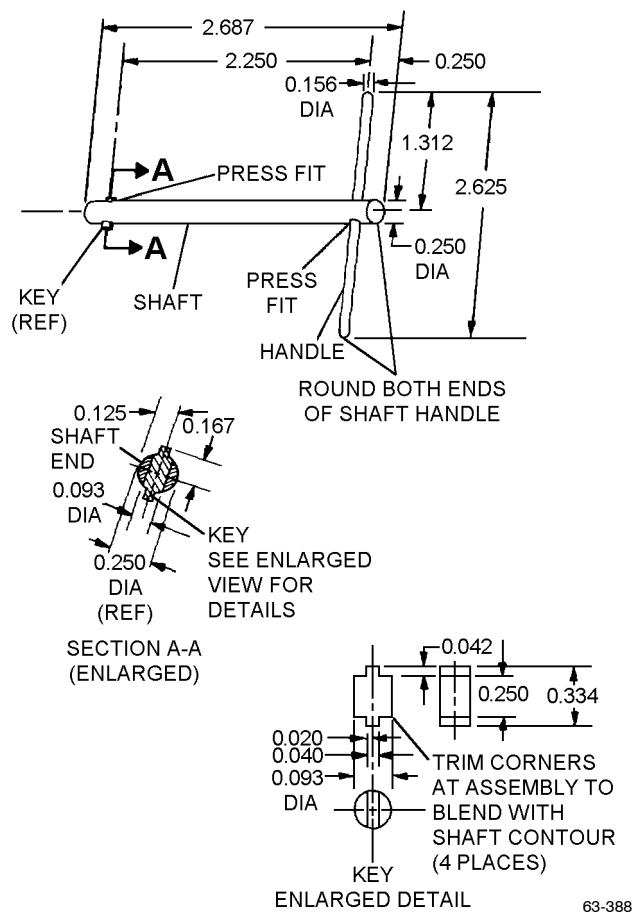


Figure 10-16. T-Wrench Fabrication

10-73. BOOT. To fabricate a boot, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Nylon	MIL-C-8135 or MIL-C-81395
As Required	Thread, Nylon, Type I, Class A, Size FF, White	V-T-295 NIIN 00-267-3024 (or equivalent)

1. Construct a boot in accordance with figure 10-17.

2. Sear exposed ends of edges.

3. All stitching shall be ASTM-D-6193, Type 301, 8 to 10 stitches per inch, and backstitch 1/2 inch minimum

10-74. LIFERAFT PACKING AID. To fabricate a liferaft packing aid, proceed as follows:

1. Fabricate packing aid as shown in figure 10-18.

10-75. CONTAINER ASSEMBLY PAD. To fabricate a container assembly pad, P/N 221D460-11, proceed as follows:

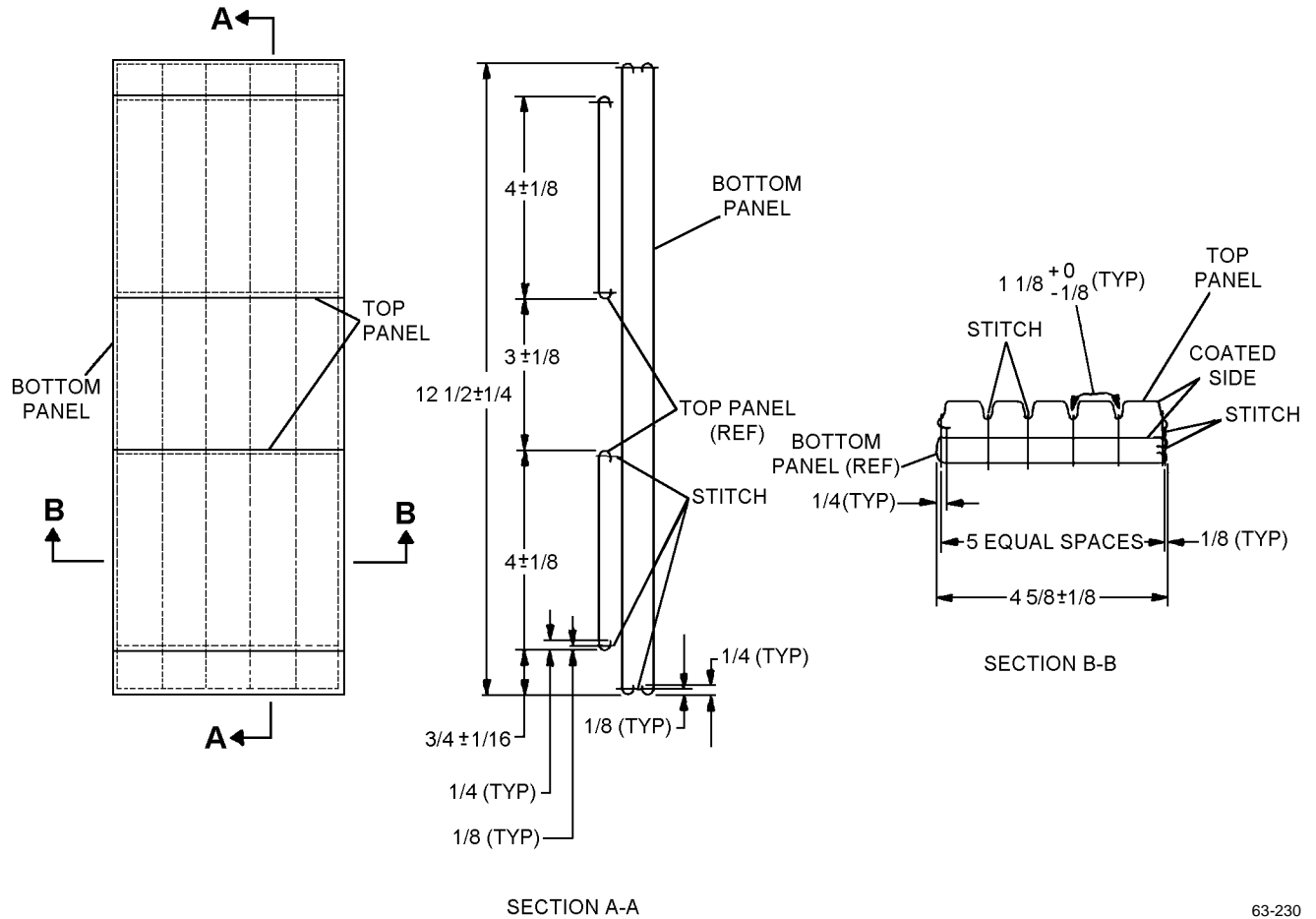
Materials Required

Quantity	Description	Reference Number
1	Cork Sheet, 0.062-Inch Thick	MIL-T-6841 NIIN 00-551-8332

1. Fabricate a container assembly pad in accordance with figure 10-19.

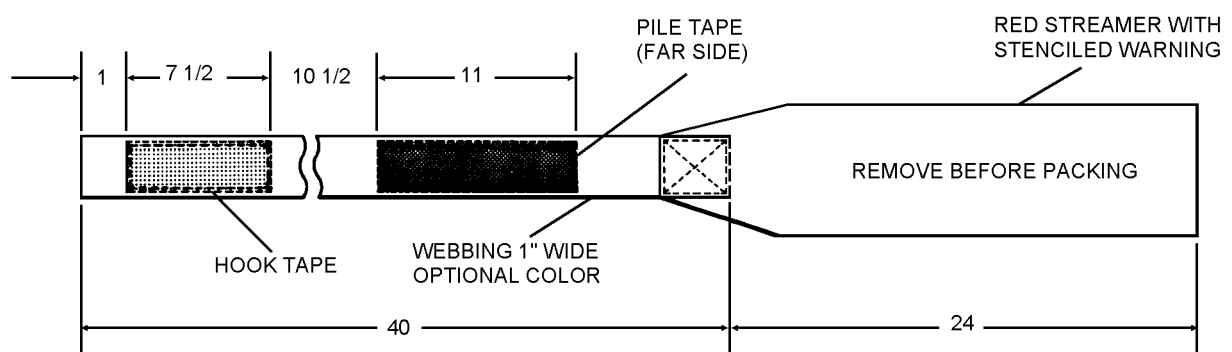
2. Rubber stamp part number on container assembly pad.

10-76. RELIEF VALVE ADJUSTMENT TOOL. Fabricate relief valve pressure nut three-prong adjustment tool in accordance with figure 10-20.



63-230

Figure 10-17. Boot

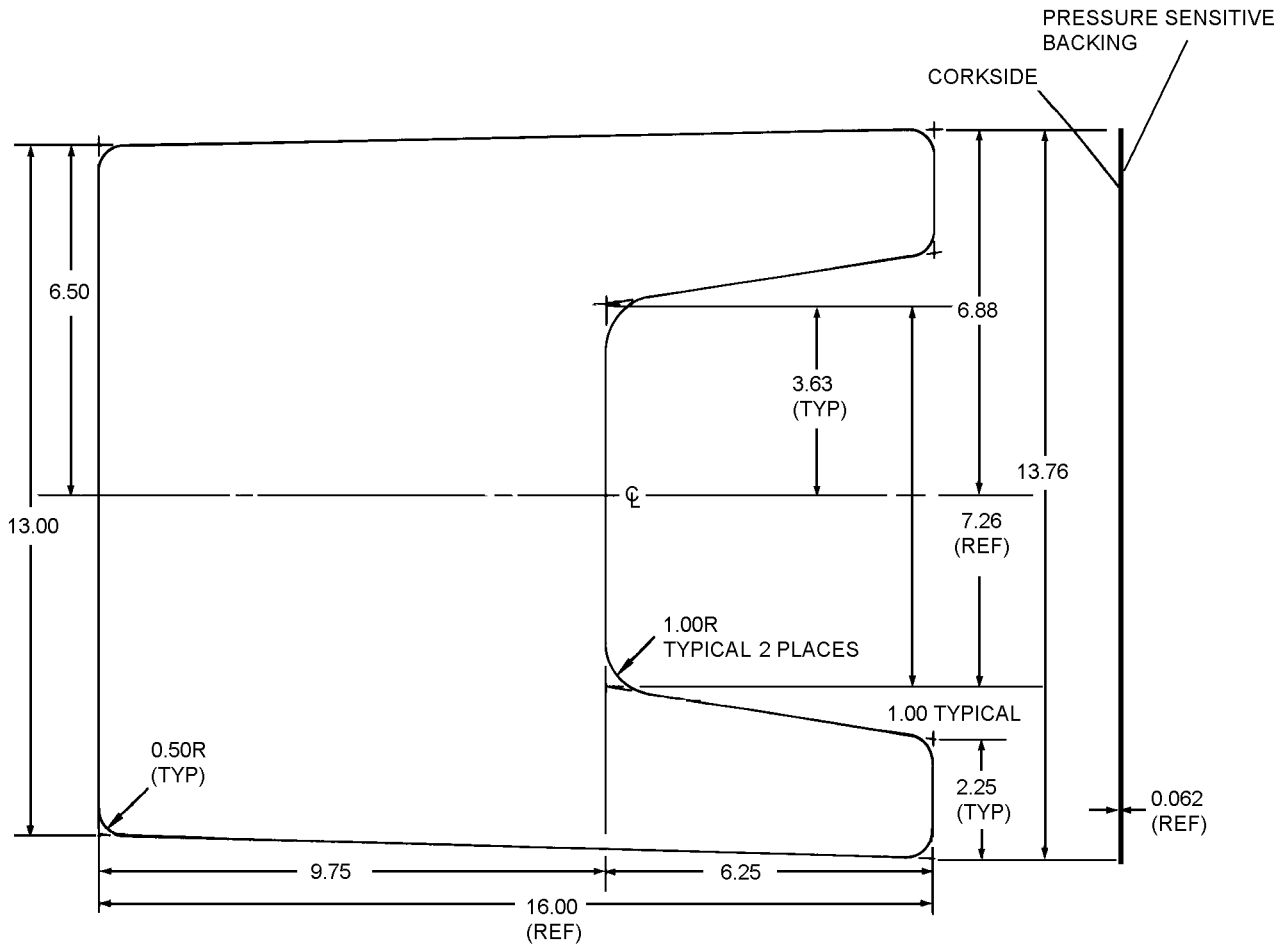


NOTES:

1. PILE TAPE AND HOOK TAPE ARE ON OPPOSITE SIDES OF WEBBING.
2. STREAMER WITH STENCILED WARNING MUST BE MADE WITH RED MATERIAL.

63-534

Figure 10-18. Liferraft Packing Aid



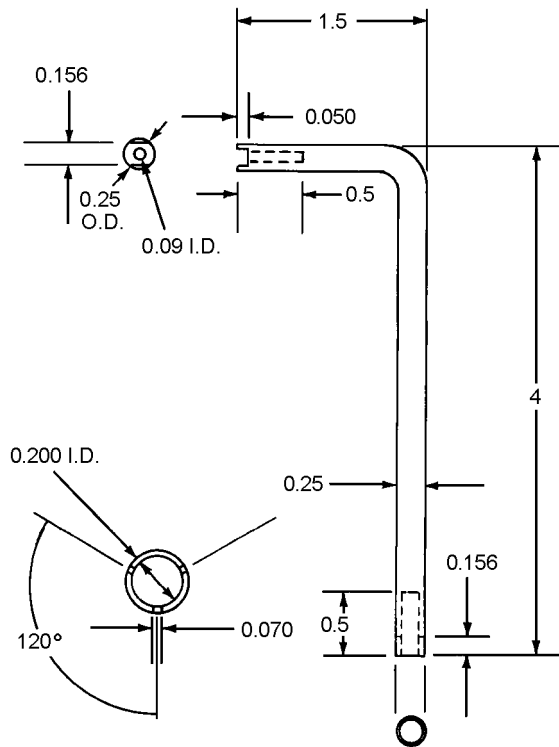
NOTES:
TOLERANCES ARE:
X.XX = ± 0.01
X.XXX = ± 0.005

63-3051

Figure 10-19. Container Assembly Pad

Materials Required			Materials Required		
Quantity	Description	Reference Number	Quantity	Description	Reference Number
As Required	Mild Steel or Brass Drill Rod, 0.25 Dia.	—	As Required	0.06 Dia. Plastic Coated Cable	GL10B (CAGE 26512)
			1	Snaphook	MIL-S-43770-12A-MIZEI
			2	Sleeve, Swaging	GS10C2 (CAGE 26512)

10-77. (F-14) ACTUATION LANYARD (AN/URT-33 RADIO BEACON). Fabricate actuation lanyard P/N A51D60016-5 as follows:

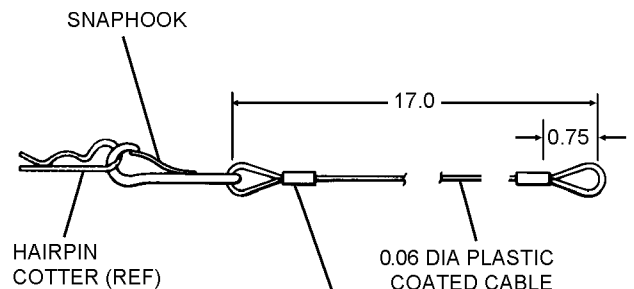


THREE PRONG PRESSURE NUT ADJUSTABLE TYPE

1. Cut required length of plastic coated cable and assemble lanyard as indicated.

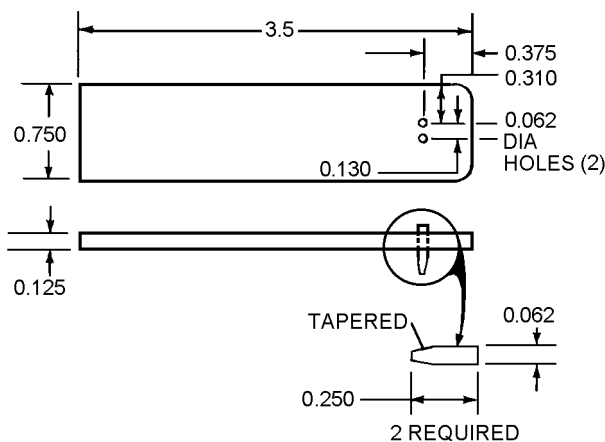
NOTE

When measuring cable length be sure to allow for end loops and swaging requirement.



SLEEVE SWAGING (TYP)

63-977



CAP ADJUSTABLE TYPE

63-3053

Step 1 - Para 10-77

10-78. (EA-6B AIRCRAFT) ACTUATION LANYARD (AN/URT-33 RADION BEACON). Fabricate actuation lanyard P/N 128ES10230-3 as follows:

Materials Required

Quantity	Description	Reference Number
As Required	0.047 Dia. Wire (with Teflon coating O.D. is 0.062)	GL10B2-27 (CAGE 26512)
2	Sleeve, Swaging	GS10C2 (CAGE 26512)
1	Snaphook	MIL-S-43770-12A-MIZEI
2	Thimble, Wire Cable, CRS	AN10C-3

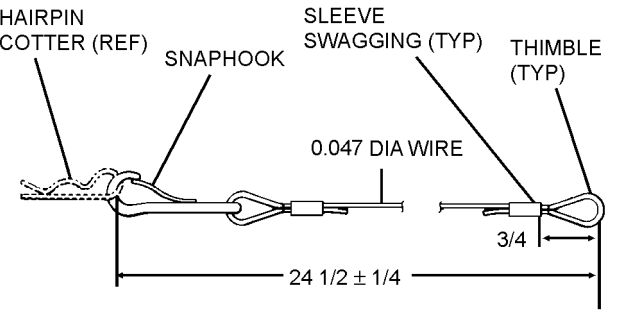
Figure 10-20. Relief Valve Adjustment

NAVAIR 13-1-6.3-2

1. Cut required length of cable and assemble as indicated.

NOTE

When measuring cable length be sure to allow for end loops and swaging requirements.



NOTE: WIRE BREAKING STRENGTH 270 lbs. 63-548

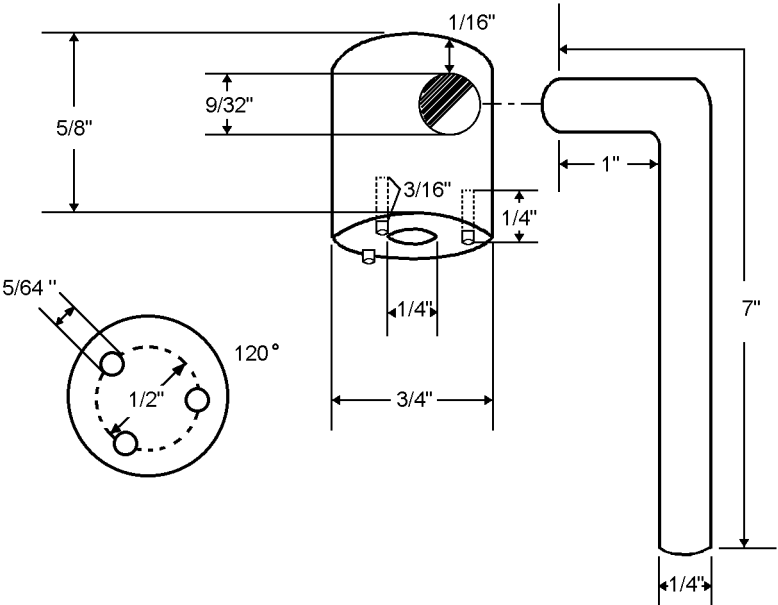
Step 1 - Para 10-78

10-79. OXYGEN PRESSURE REDUCER RETAINER TOOL. Fabricate oxygen pressure reducer retainer tool as follows. Refer to Figure 10-21:

Materials Required

Quantity	Description	Reference Number
1	3/4" Diameter Stainless Steel Rod 5/8" long	—
3	5/64" Diameter Stainless Steel Rod or Equivalent 1/4" long	—
1	1/4" Diameter Stainless Steel Rod 7" long	—

1. Drill a 1/4" hole centered thru the length of the 3/4" diameter steel rod.
2. Drill a 9/32" hole thru the 3/4" diameter rod approximately 1/16" from one end of the rod.
3. Drill three holes equally spaced (120 degrees apart) on a 1/2 inch diameter circle centered on the opposite end of the 3/4 inch diameter rod. Each hole is 5/64" in diameter and 3/16" deep.
4. Press fit one of the 5/64" diameter rods into each of the 5/64" holes drilled in the end of the 3/4" rod. Approximately 1/16" shall protrude when finished.
5. Bend the 1/4" diameter rod into a 90 degree angle approximately 1 inch from one end to form a handle.



63-12

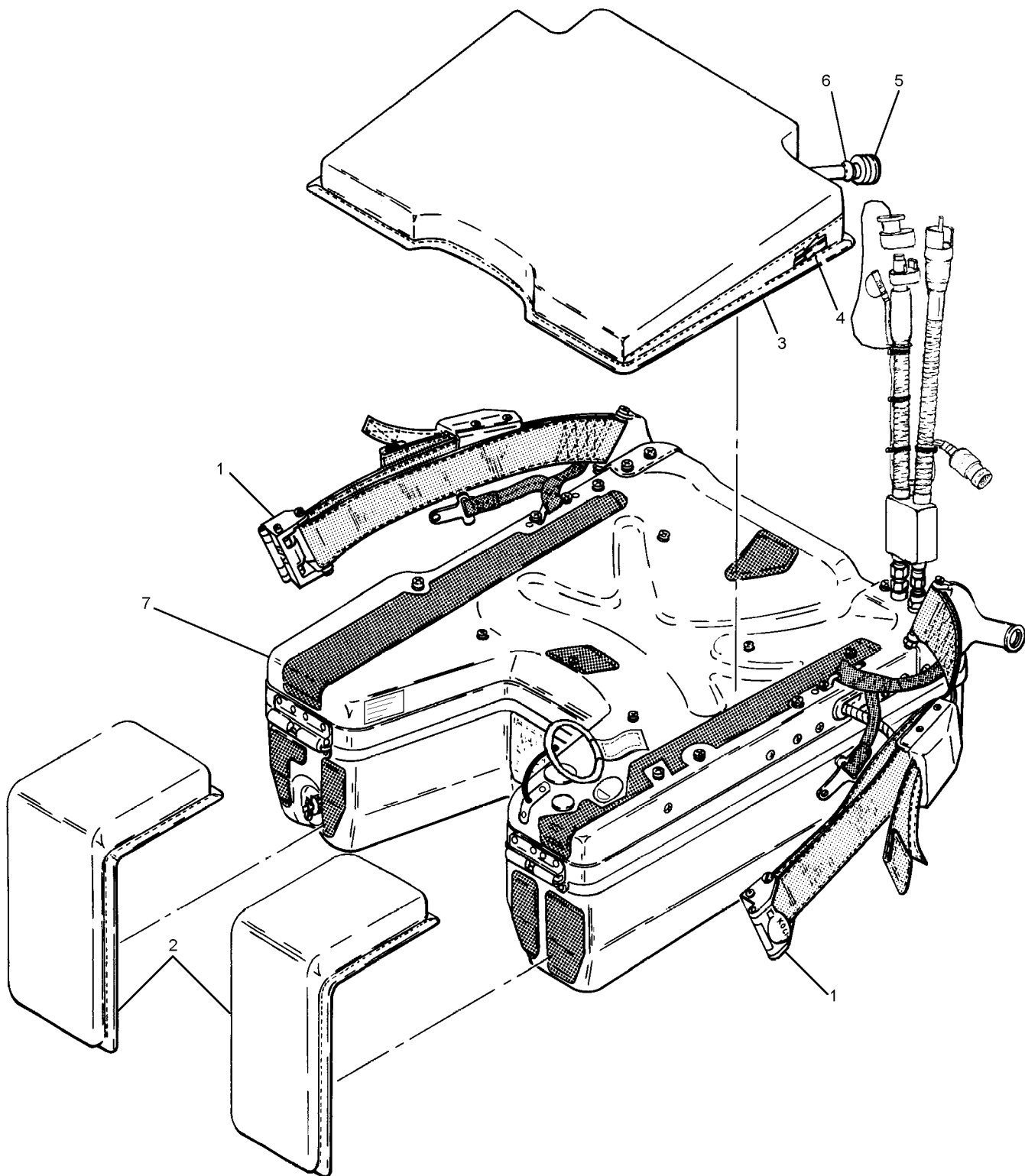
Figure 10-21. Oxygen Pressure Reducer Retainer Tool

Section 10-8. Illustrated Parts Breakdown

10-80. GENERAL.

10-81. This section lists and illustrates the assemblies and detail parts of the SKU-12/A survival kit assembly as manufactured and supplied by American Safety Flight Systems, Inc. (CAGE 31441) P/N 8510004.

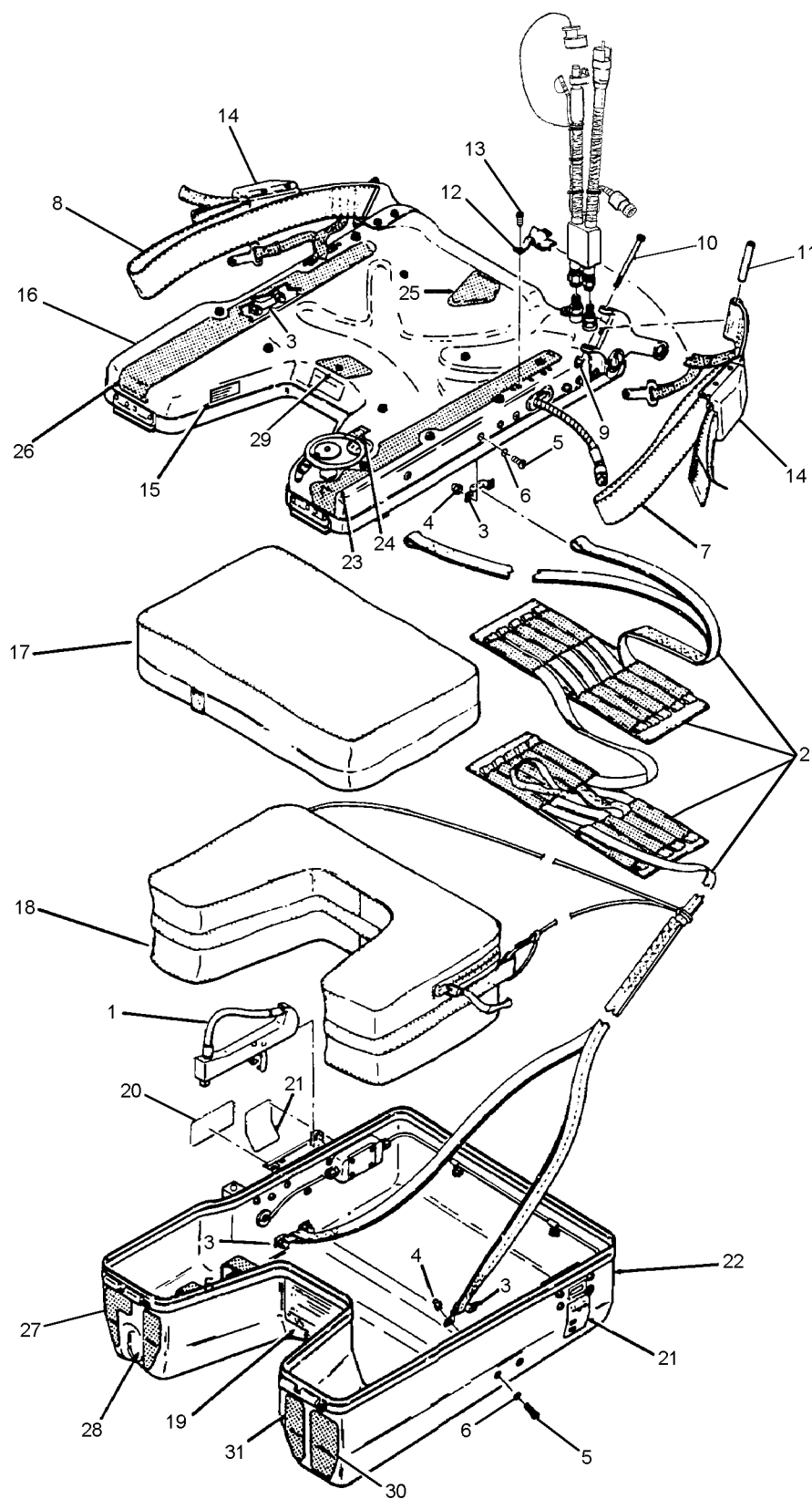
10-82. The Illustrated Parts Breakdown should be used during maintenance when requisitioning and identifying parts.



63-104

Figure 10-22. SKU-12/A Seat Survival Kit Assembly

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
10-22	3246AS100	SEAT SURVIVAL KIT ASSEMBLY, SKU-12/A	1	
-1	015-11365-1	. RELEASE ASSEMBLY, Lapbelt (Note 1)	2	
-2	128ES10070-5	. CUSHION, Thigh support	2	
	128ES10070-1	. CUSHION, Thigh support (Alternate for 128ES10070-5)	2	
	128ES100607	. CUSHION ASSEMBLY, Comfort	1	
	128ES100601	. CUSHION ASSEMBLY, Comfort (Alternate for 128ES10060-7)	1	
-3	128ES100609	. . COVER ASSEMBLY, Cushion	1	
	128ES1006025	. . CUSHION ASSEMBLY	1	
-4	128ES1006027	. . . BLADDER ASSEMBLY	1	
-5	128SCES115-13	. . COUPLING	1	
-6	NAS397-10	. . CLAMP, Ratchet, one piece	1	
-7	85100041	. SURVIVAL KIT ASSEMBLY, SKU-12/A (See figure 10-23 for BKDN)	1	
	Notes: 1. When replacing lapbelt assembly, apply MIL-S-22473 to shoulder screws. Use any contrasting color.			



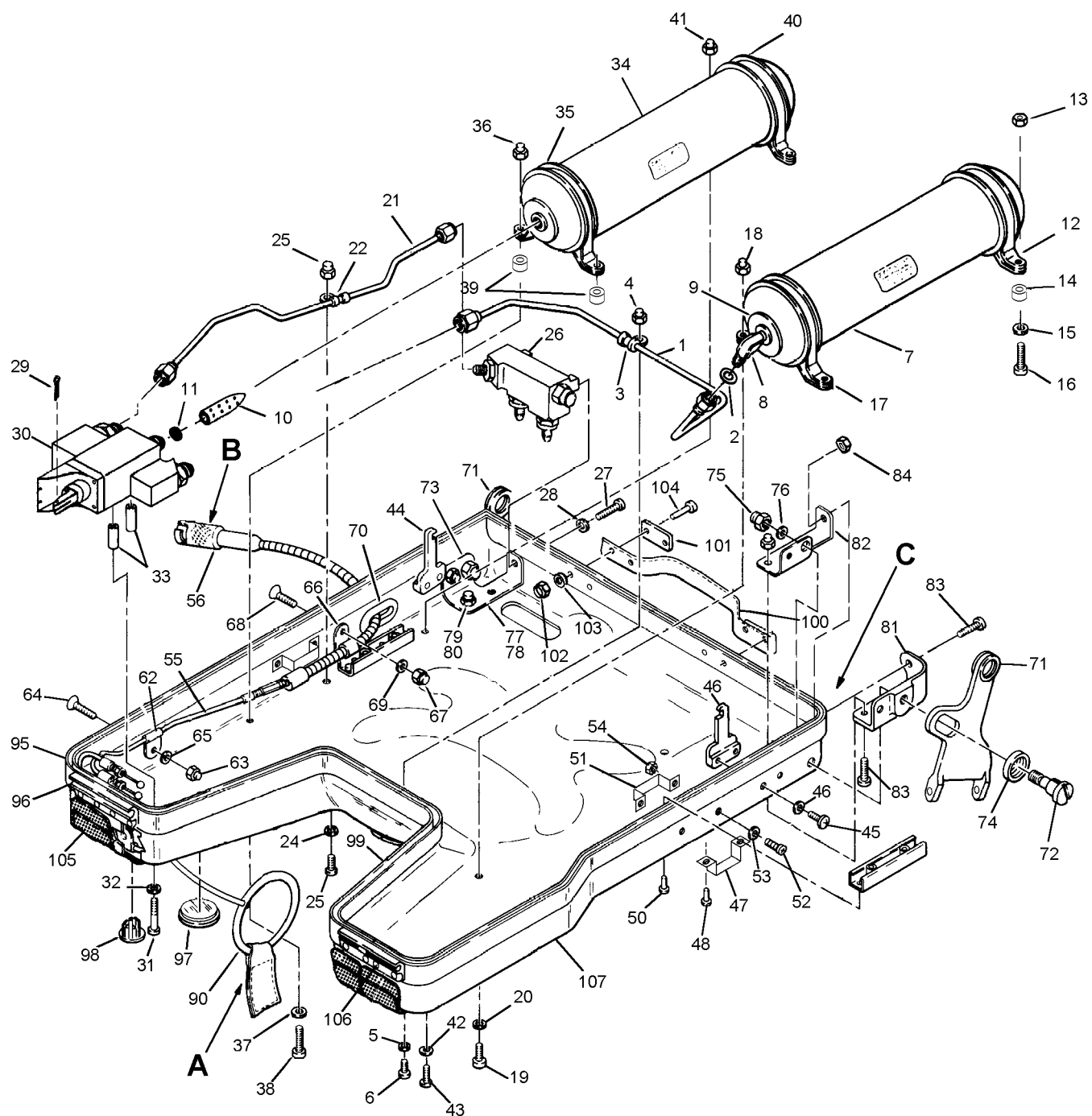
63-105

Figure 10-23. SKU-12/A Seat Survival Kit Assembly Components

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-23	8510004-1	SURVIVAL KIT ASSEMBLY	REF	
		(See figure 10-22 for NHA)		
-1	365750	. HANDLE ASSEMBLY, Release	1	
		(See figure 10-31 for BKDN)		
-2	8410005-1	. DROPLINE AND BOOT ASSEMBLY	1	
-3	365700-1	. BRACKET, Footman	4	
		(ATTACHING PARTS)		
-4	22K2-62	. NUT, Hex, cap	2	
-5	MS51957-28	. SCREW	2	
-6	AN960C6L	. WASHER	2	
		---*---		
	8610050-2	. HARNESS ASSEMBLY, Restraint, RH	1	
	8610050-1	. HARNESS ASSEMBLY, Restraint, LH	1	
-7	8610050-21	. HARNESS ASSEMBLY, LH	1	
-8	8610050-22	. HARNESS ASSEMBLY, RH	1	
		(ATTACHING PARTS FOR ITEMS 7 AND 8)		
-9	22K1-02	. NUT, Cap	1	
-10	8610054-1	. PIN SCREW, Harness	1	
-11	8610052-1	. SLEEVE, Bolt	1	
		---*---		
-12	7110012-1	. BRACKET, Footman	2	
		(ATTACHING PARTS)		
-13	MS51958-62	. SCREW	2	
		---*---		
-14	8410059-1	. ADJUSTER, Harness belt	1	
	GA506D1	. ADJUSTER, Harness belt	1	
		(Interchangeable with 8410059-1 in pairs only)		
-15	6999002-9	. PLATE, Identification, lid	1	
-16	8610023-1	. LID ASSEMBLY	1	
		(See figure 10-24 for BKDN)		
-17	3171AS100-1	. COVER, Liferaft, survival kit	1	
-18	8810020-1	. CONTAINER, Equipment	1	
-19	6999002-25	. PLATE, Identification, SKU-12/A	1	
-20	102D499-17	. LABEL, Warning	1	
-21	99133	. DECAL COVER, Manual release slot	1	
-22	8610003-1	. CONTAINER ASSEMBLY	1	
		(See figure 10-27 for BKDN)		
-23	8610022-21	. FASTENER STRIP (LH) (16.72 X 2 IN.)	1	
-24	8610022-23	. FASTENER STRIP (MANUAL RELEASE)	1	
		(1.50 X 1 IN.)		
-25	8610022-25	. FASTENER STRIP (AFT CENTER)	1	
		(3.12 X 2 IN.)		
-26	8610022-27	. FASTENER STRIP (RH) (16.72 X 2 IN.)	1	

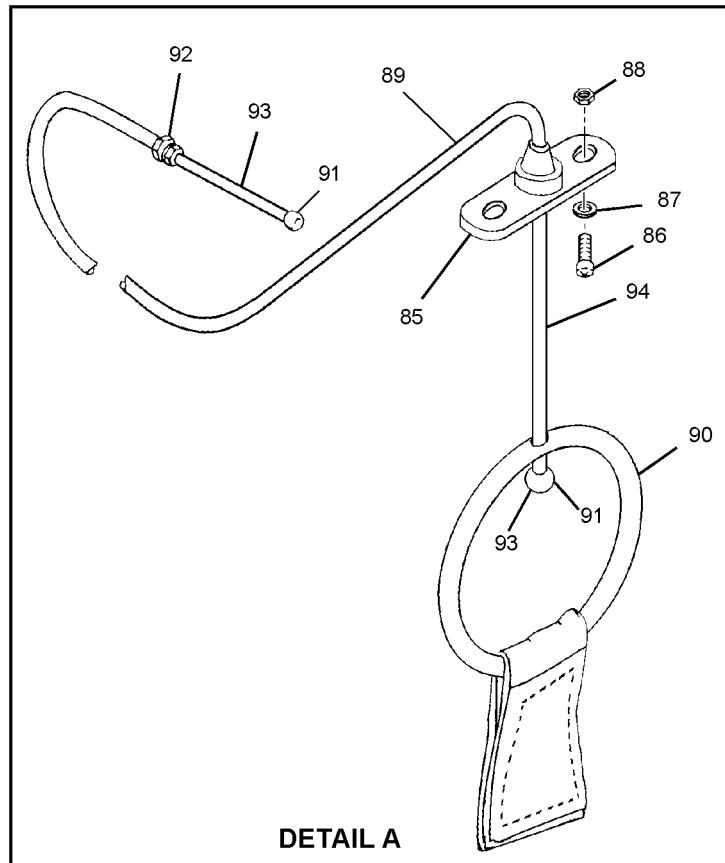
NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
10-23-27	8610002-27	.							1	
-28	8610002-25	.							1	
-29	8610022-29	.							1	
-30	8610002-21	.							1	
-31	8610002-23	.							1	

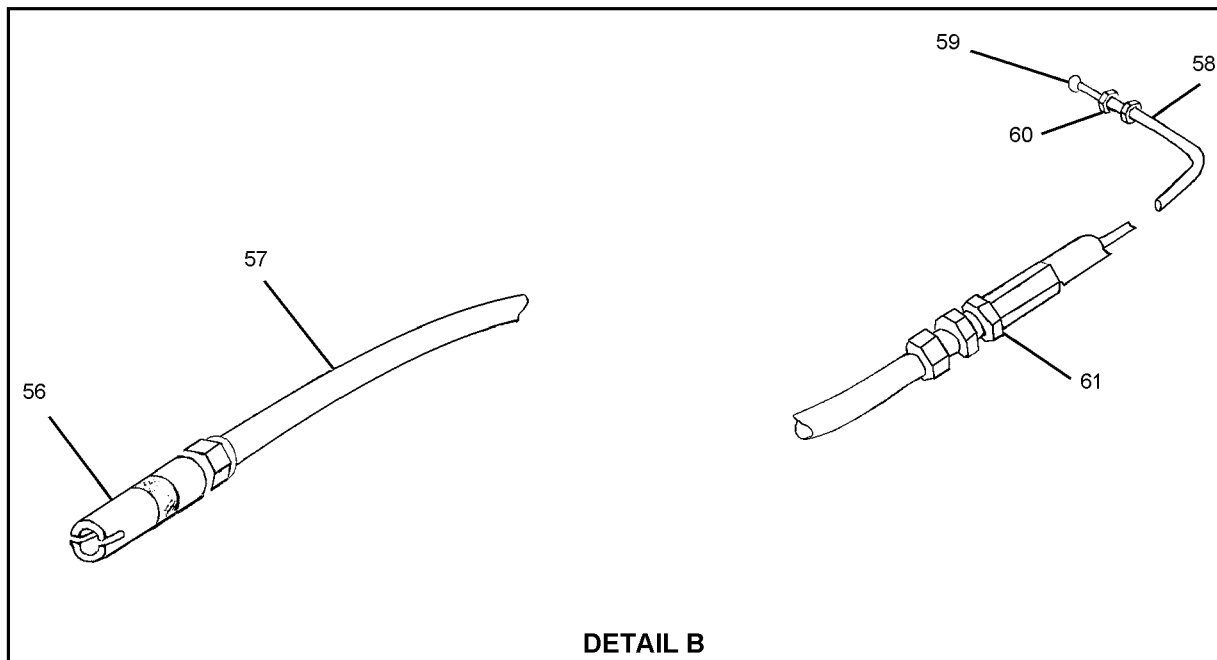


63-106

Figure 10-24. Lid Assembly (Sheet 1 of 3)

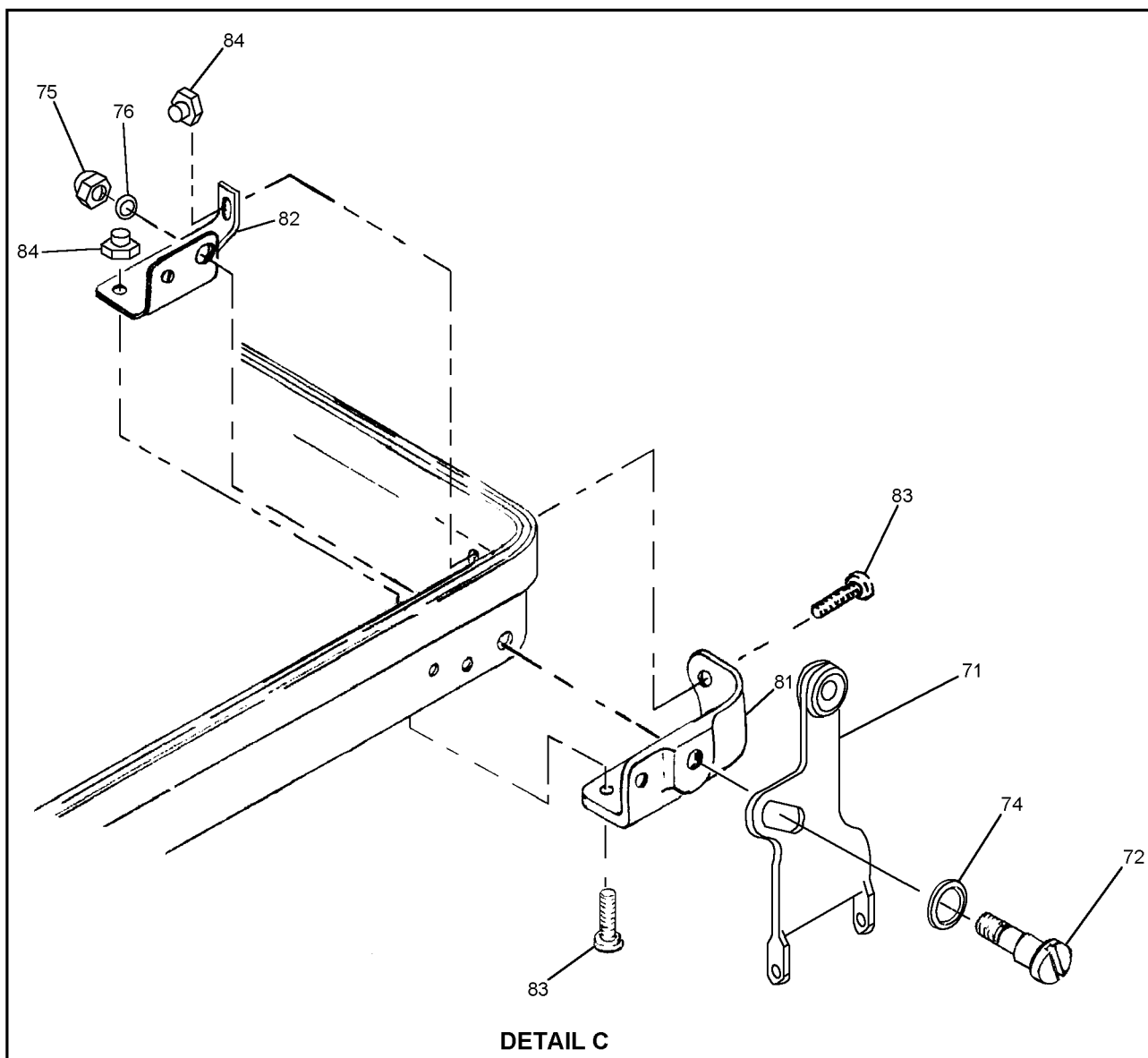


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63-108

Figure 10-24. Lid Assembly (Sheet 2 of 3)



63-109

Figure 10-24. Lid Assembly (Sheet 3 of 3)

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-24	8610023-1	LID ASSEMBLY, Survival Kit, SKU-12/A (See figure 10-23 for NHA) (Note 10)	REF	
-1	8610033-1	. TUBE ASSEMBLY, Cylinder connect (Notes 4 and 7)	1	
-2	VSF1015C3B	. WASHER, Conical seal	2	
-3	MS25281-3	. CLAMP, Plastic, loop (ATTACHING PARTS)	1	
-4	MS51958-63	. SCREW	1	
-5	AN960C10L	. WASHER	1	
-6	22K2-02	. NUT ---*---	1	
	8820059-1	. CYLINDER ASSEMBLY, Oxygen (Note 7)	1	
-7	8620028-1	. . CYLINDER, Oxygen, nonshatterable	1	
-8	MS20822-3J	. . ELBOW (Note 2)	1	
-9	8610061-1	. . FITTING, Pipe reducer (Note 2)	1	
-10	7620072-1	. . TUBE, Antisiphon (Note 2)	2	
-11	F-4173-1-20	. . FILTER ELEMENT	2	
-12	NAS1716C40T	. CLAMP ASSEMBLY, Cushioned, (aft) (ATTACHING PARTS)	1	
-13	22K2-02	. NUT, Self-locking, cap	2	
-14	8810022-1	. SPACER, No. 10 ---*---	2	
-15	MS51958-65	. SCREW	2	
-16	AN960C10L	. WASHER	2	
-17	NAS1716C40T	. CLAMP ASSEMBLY, Cushioned, (fwd) (ATTACHING PARTS)	1	
-18	22K2-02	. NUT, Self-locking, cap	2	
-19	MS51958-62	. SCREW ---*---	2	
-20	AN960C10L	. WASHER	2	
-21	8610035-1	. TUBE ASSEMBLY, Oxygen outlet (Notes 5 and 6)	1	
-22	MS25281-4	. CLAMP, Loop, plastic (ATTACHING PARTS)	1	
-23	MS51958-63	. SCREW ---*---	1	
-24	AN960C10L	. WASHER	1	
-25	22K2-02	. NUT, Self-locking, cap	1	
-26	8810023-1	. MANIFOLD ASSEMBLY, Oxygen outlet (See figure 10-25 for BKDN) (Note 6) (ATTACHING PARTS)	1	
-27	MS51958-63	. SCREW (Note 1)	2	
-28	AN960C10L	. WASHER ---*---	2	

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
10-24-29	MS24665-153	.	PIN, Cotter						1	
	8820058-1	.	REDUCER AND CYLINDER ASSEMBLY						1	
			(See figure 10-24 for NHA)							
-30	8720024-1	.	REDUCER ASSEMBLY, Pressure						1	
			(See figure 10-26 for BKDN) (Note 1)							
			(ATTACHING PARTS)							
-31	MS51957-69	.	SCREW (Note 1)						2	
-32	AN960C10L	.	WASHER						2	
-33	NAS43DD3-60	.	SPACER (Standoff)						2	
			---*---							
-34	8620028-1	.	CYLINDER, Oxygen, nonshatterable						1	
			(Note 7)							
-35	NAS1761C40T	.	CLAMP ASSEMBLY, Cushion, (fwd)						1	
			(ATTACHING PARTS)							
-36	22K2-02	.	NUT, Self-locking, cap						2	
-37	AN960C10L	.	WASHER						2	
-38	MS51958-65	.	SCREW						2	
			(ATTACHING PARTS)							
-39	8810022-1	.	SPACER, No. 10						2	
			---*---							
-40	NAS1716C40T	.	CLAMP ASSEMBLY, Cushioned, (aft)						1	
			(ATTACHING PARTS)							
-41	22K2-02	.	NUT, Self-locking, cap						2	
-42	AN960C10L	.	WASHER						2	
-43	MS51958-62	.	SCREW						2	
			---*---							
-44	8410030-1	.	LATCH, Lid						2	
			(ATTACHING PARTS)							
-45	MS51958-63	.	SCREW (Note 1)						2	
-46	AN960C10L	.	WASHER						2	
			---*---							
-47	7110012-1	.	BRACKET, Footman, (top)						2	
			(ATTACHING PARTS)							
-48	MS51958-62	.	SCREW						2	
			---*---							
-49	8810025-1	.	NUT CHANNEL, Gang						2	
			(ATTACHING PARTS)							
-50	MS20426AD3-4	.	RIVET, Solid head						2	
			---*---							
-51	365700-1	.	BRACKET, Footman (inside)						2	
			(ATTACHING PARTS)							
-52	MS51957-28	.	SCREW						2	
			---*---							
-53	AN960C6L	.	WASHER						2	

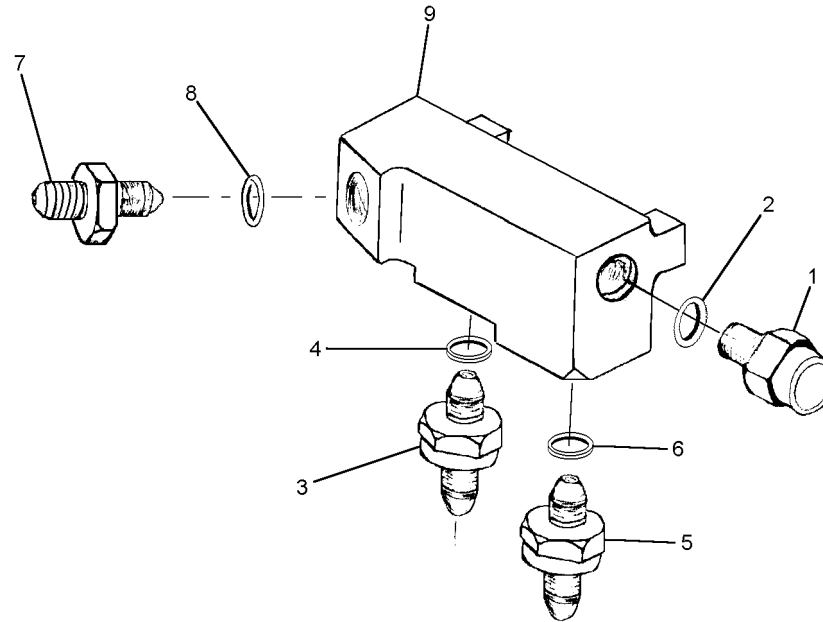
NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-24-54	22K2-62	. NUT, Self-locking, cap	2	
-55	8610045-3	. LANYARD ASSEMBLY, Oxygen, auto-actuation (kit to aircraft) (Notes 3 and 8)	1	
-56	8610044-1	. . COUPLING ASSEMBLY	1	
-57	8610010-3	. . DUCT ASSEMBLY	1	
-58	8610046-1	. . CONDUIT ASSEMBLY	1	
-59	RA-2487-2	. . BALL, Terminal (Note 8)	1	
-60	MS21043-3	. . NUT, Hex, self-lock	1	
-61	MS35650-304	. . NUT, Hex, plain	1	
-62	MS25281-5	. CLAMP, Loop (ATTACHING PARTS)	1	
-63	22K2-02	. NUT	1	
-64	MS51958-63	. SCREW	1	
-65	AN960C10L	. WASHER ---*---	1	
-66	MS25281-2	. CLAMP, Loop (ATTACHING PARTS)	1	
-67	22K2-02	. NUT	1	
-68	MS51958-63	. SCREW	1	
-69	AN960C10L	. WASHER ---*---	1	
-70	MS35489-42	. GROMMET	1	
-71	8610032-1	. FITTING, Anchor (ATTACHING PARTS)	2	
-72	8610031-3	. LUG PIN, Harness, RH	1	
-73	8610031-1	. LUG PIN, Harness, LH	1	
-74	8610051-1	. BONNET, Lug pin	1	
-75	22K2-048	. NUT, Self-locking, cap	1	
-76	8610009-1	. WASHER ---*---	1	
-77	8610025-1	. BRACKET, Harness, LH	1	
-78	8610028-1	. PLATE, Backup, LH (ATTACHING PARTS FOR ITEMS 77 AND 78)	1	
-79	MS51958-61	. SCREW	4	
-80	22K2-02	. NUT, Self-locking, cap	4	
-81	8610026-1	. BRACKET, Harness, RH	1	
-82	8610028-1	. PLATE, Backup, RH (ATTACHING PARTS FOR ITEMS 81 AND 82)	1	
-83	MS51958-61	. SCREW	4	
-84	22K2-02	. NUT, Self-locking, cap	4	
	8610038-1	. LANYARD ASSEMBLY, Manual release, oxygen (Notes 3 and 8)	1	

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-24-85	8610042-1	. . CABLE GUIDE (ATTACHING PARTS)	1	
-86	MS51957-28	. . SCREW	2	
-87	AN960C6L	. . WASHER	2	
-88	22K2-62	. . NUT, Self-locking ---*---	2	
-89	8610040-1	. . CONDUIT ASSEMBLY	1	
-90	8610061-1	. . PULL RING ASSEMBLY	1	
-91	RA-2487-2	. . BALL, Terminal (Note 8)	2	
-92	MS21043-3	. . NUT, Self-locking, hex	1	
-93	MIL-W-83420	. . WIRE ROPE (0.062 DIA, CRES)	A/R	
-94	AMS3655	. . TUBING, Electrical insulation (Size 13, Teflon)	A/R	
-95	8610055-1	. HINGE ASSEMBLY, Female (ATTACHING PARTS)	2	
-96	MS20470AD4-7.5	. RIVET ---*---	4	
-97	8610012-1	. WINDOW, Oxygen gage (Note 12)	1	
-98	SS48152-K1611	. PLUG, Hole	1	
-99	6999002-9	. PLATE, Identification	1	
-100	8610008-1	. STRAP, Carrying	1	
-101	8610063-1	. PLATE, Backing (ATTACHING PARTS FOR ITEMS 100 AND 101)	2	
-102	22K2-62	. NUT, Self locking, cap	4	
-103	AN960C6L	. WASHER	4	
-104	MS51957-31	. SCREW ---*---	4	
-105	8610022-21	. FASTENER TAPE, Pile (Note 11)	A/R	
-106	8610022-27	. FASTENER TAPE, Pile	A/R	
-107	8610021-1	. LID, Survival kit, riveted and bonded	1	
Notes: 1. Apply sealant MIL-S-22473 to male threads before installing. Use any contrasting color. 2. Apply sealing tape to threads prior to installing 3. Check for 20 lb pull force with cylinder full and 0-90 psig applied to system outlet port. 4. Torque 95-105 in. lbs. 5. Torque 50-65 in. lbs. 6. After assembly, proof test for zero leakage at 100 psig. 7. After assembly, proof test for zero leakage at 1800-2000 psig. 8. Proof test for 160 ± 10 pounds between terminal ball and pull ring. 9. Enter data on I.D. plate then cover with transparent tape.				

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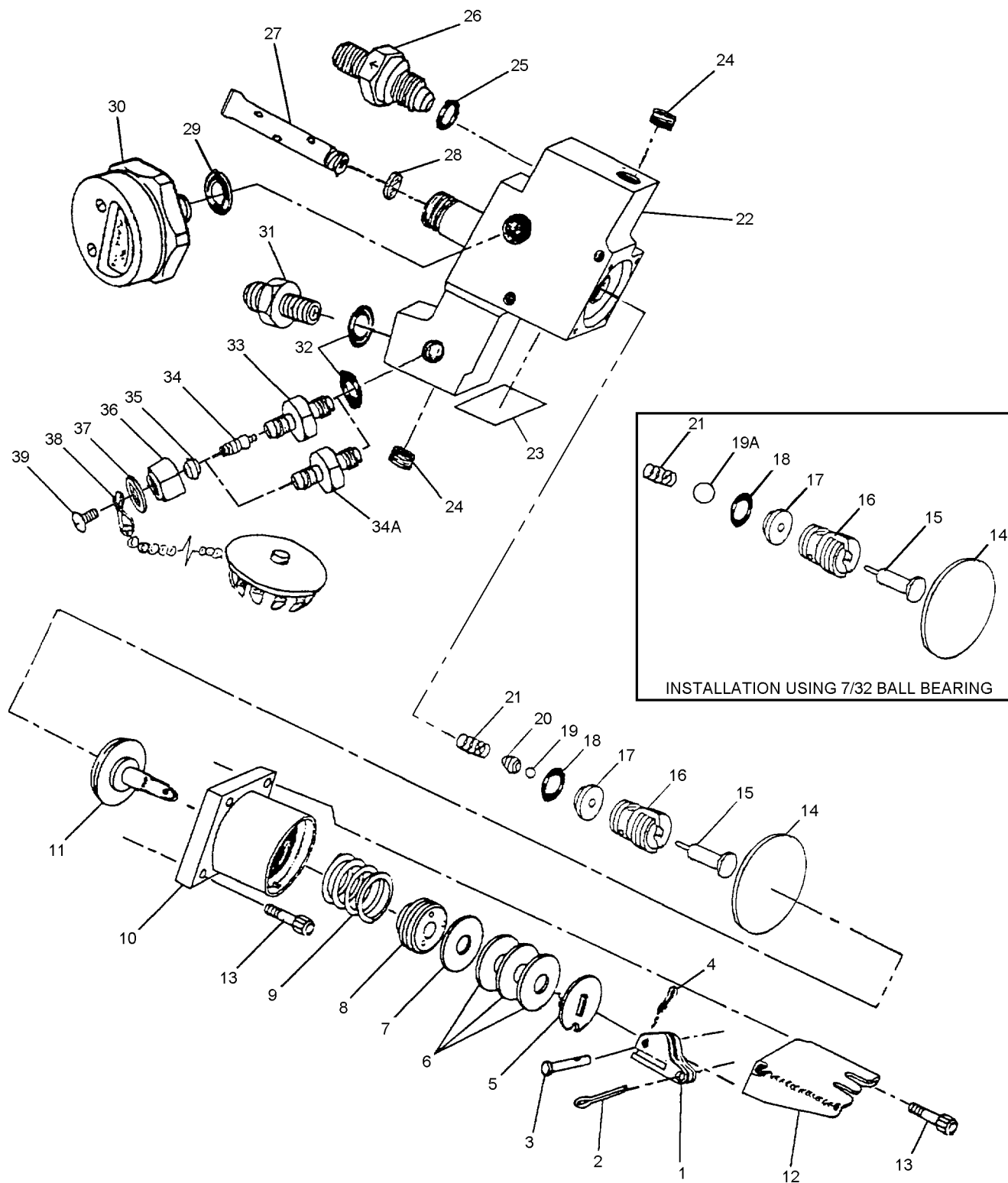
Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
		Notes (cont):								
		10. Stamp CAGE and assembly part number IAW MIL-STD-100 and cover with tape (NIIN 00-073-6094).								
		11. Ensure area is clean before applying adhesive No. 45 (CAGE 11153) to surface. Precoat one side of tape and allow to become tacky, position, and press tape on.								
		12. Install using adhesive No. 8089 (CAGE 99384).								



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Figure 10-25. Manifold Assembly – (P/N 8610034-1D)

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
10-25	8810023-1	MANIFOLD ASSEMBLY, Outlet, oxygen (See figure 10-24 for NHA)	1	
-1	EW63004	. RELIEF VALVE, (30941)	1	
	P103-673	. RELIEF VALVE, (91816)	1	
	Z02RV04-4	. RELIEF VALVE, (91816) (Note 5)	1	
-2	99136-53-15	. O-RING (Note 3)	1	
-3	3104AS100-1	. VALVE, Check (Notes 1 and 4)	1	
-4	99136-53-15	. O-RING (Note 3)	1	
-5	MS24392D5	. NIPPLE, Tube (Note 2)	1	
-6	99136-54-15	. O-RING (Note 3)	1	
-7	MS24392D4	. NIPPLE, Tube (Note 1)	1	
-8	99136-53-15	. O-RING (Note 3)	1	
-9	8610034-1	. HOUSING, Manifold, outlet	1	
Notes:		1. Torque 95 to 105 in-lb. 2. Torque 125 to 135 in-lb. 3. Install coated with Krytox 240 AZ. 4. Alternate part number for check valve is 2624A4TT. 5. Torque 65 to 75 in-lb.		



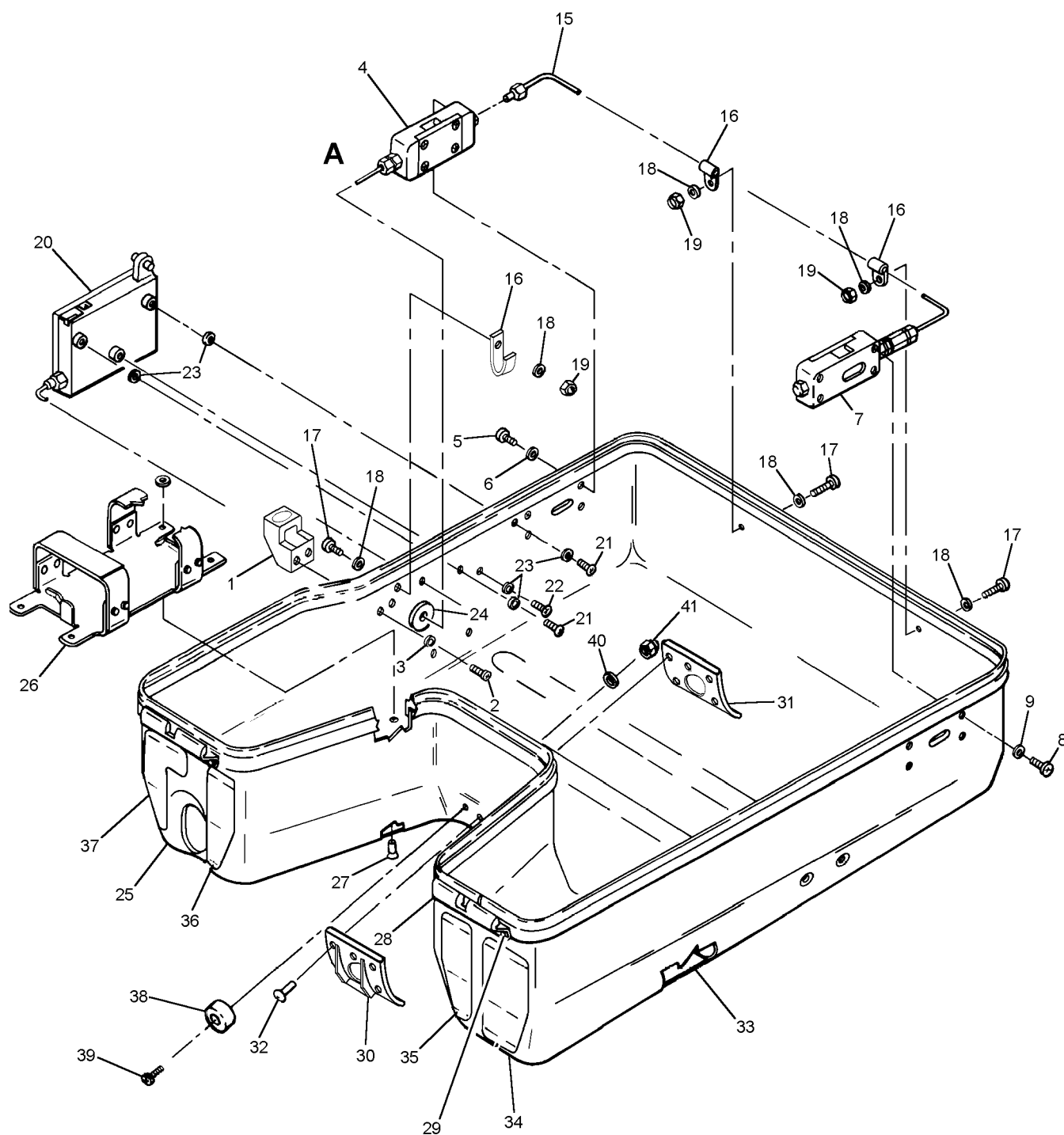
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Figure 10-26. Pressure Reducer Assembly (P/N 870024-1)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-26	8720024-1	PRESSURE REDUCER ASSEMBLY (See figure 10-24 for NHA)	REF	
-1	8820049-1	. CAM, Reducer, Long	1	
	767100-1	. CAM, Reducer, Long, Alternate	1	
-2	MS24665-153	. PIN, Cotter	1	
-3	MS20392-1C17	. PIN, Straight, Headed	1	
-4	MS24665-151	. PIN, Cotter	1	
-5	7620010-1	. SPACER, Slotted	1	
-6	9110002	. BELLEVILLE WASHER	3	
-7	767901-1	. SPACER 0.032 INCH THICKNESS	AR	
	767901-2	. SPACER 0.016 INCH THICKNESS	AR	
	767901-3	. SPACER 0.025 INCH THICKNESS	AR	
	767901-4	. SPACER 0.012 INCH THICKNESS	AR	
	767901-5	. SPACER 0.006 INCH THICKNESS	AR	
	767901-6	. SPACER 0.010 INCH THICKNESS	AR	
-8	7110010	. RETAINER	1	
-9	741374	. SPRING	1	
-10	7620011-203	. FLANGE ASSEMBLY	1	
-11	767902-3	. PISTON	1	
-12	7520014-9	. BRACKET, Reducer	1	
-13	P60FS6-32-8CR	. SCREW, Cap, Self-locking	4	
-14	723134	. DIAPHRAGM	1	
-15	723106	. PLUNGER	1	
-16	723103-1	. RETAINER	1	
-17	7820011-1	. SEAT	1	
-18	99136-12-15	. PACKING, O-Ring	1	
-19	MS9461-03	. BALL BEARING (0.125" DIA) (Note 1)	1	
-19A	19755	. BALL BEARING (0.2198" DIA) (Note 1)	1	
-20	723107	. RETAINER (Note 1)	1	
-21	7820012-1	. SPRING, Helical Compression	1	
-22	8720025-1	. HOUSING, Reducer	1	
-23	6999002-5	. PLATE, Identification	1	
-24	MS27769D2	. PLUG, Pipe, Hex, Socket	2	
-25	99136-53-15	. PACKING, O-Ring	1	
-26	283684	. CHECK VALVE	1	
-27	7620072-1	. TUBE, Antisiphon	1	
-28	F-4173-1-20	. FILTER ELEMENT	1	
-29	99136-52-15	. PACKING	1	
-30	741376	. GAGE, Pressure, Oxygen	1	
-31	MS24392J3	. NIPPLE, Tube, Precision	1	
-32	99136-11-15	. PACKING, O-ring	2	
-33	7520019-207	. FILLER VALVE	1	
-34	AN809-1	. CORE	1	
-34A	9120097-23	. FILL VALVE (Note 2)	1	

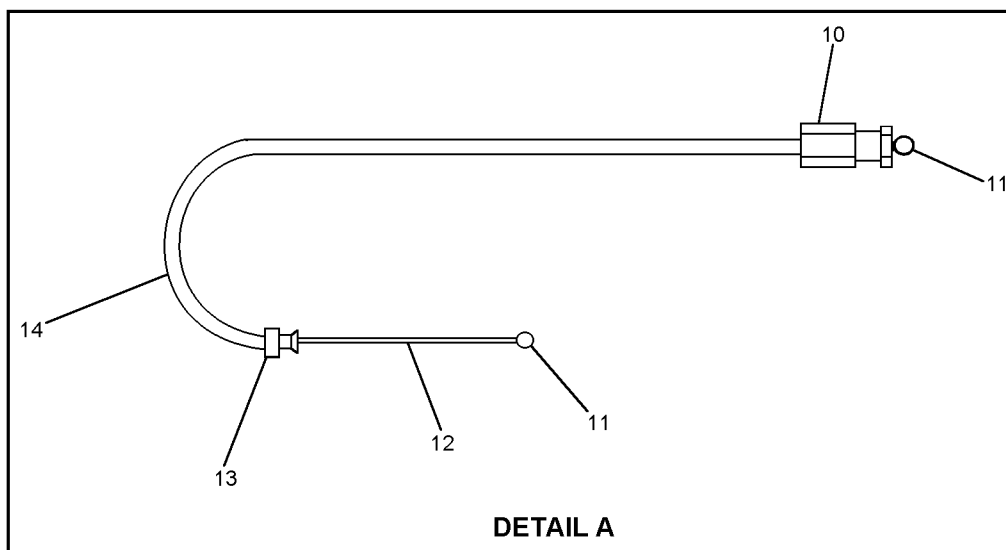
NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
10-26-35	767862	. PLUG	1	
-36	767861	. CAP	1	
-37	AN960C4	. WASHER	1	
-38	767860	. CAP ASSEMBLY	1	
-39	AN515C4-4	. SCREW	1	
		Notes: 1. Retainer P/N 723107 is used only with Ball Bearing, P/N MS9461-03. Ball Bearing P/N 19755 requires no retainer. 2. Fill Valve can be used as an alternate to replace Filler Valve P/N 7520019-207 and Core P/N AN809-1.		



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Figure 10-27. Survival Kit Container Assembly (Sheet 1 of 2)



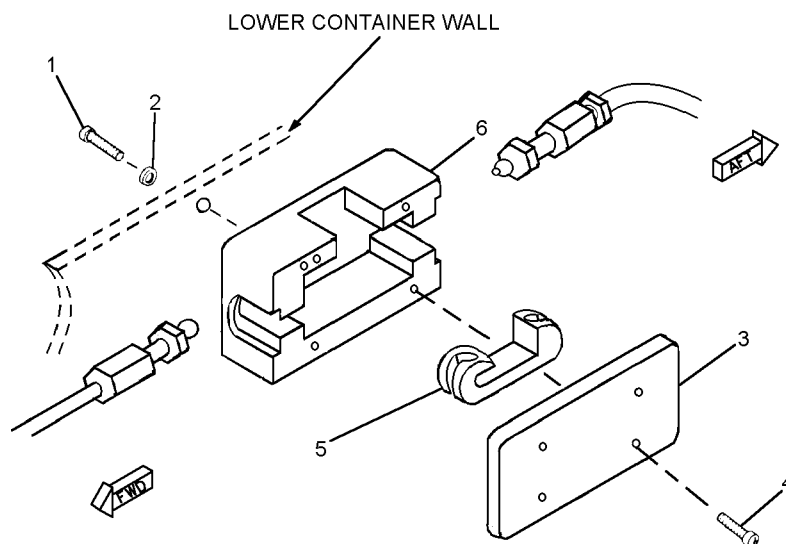
63-113

Figure 10-27. Survival Kit Container Assembly (Sheet 2 of 2)

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-27	8610003-1	CONTAINER ASSEMBLY, SURVIVAL KIT, SKU-12\A (See figure 10-23 for NHA)	REF	
-1	365757	. RETAINER, Handle (ATTACHING PARTS)	1	
-2	MS51957-43	. SCREW	2	
-3	AN960C8L	. WASHER ---*---	2	
-4	No Number	. LOCK ASSEMBLY, Lid, RH (See figure 10-28 for BKDN) (ATTACHING PARTS)	1	
-5	MS51958-63	. SCREW	4	
-6	AN960C10L	. WASHER ---*---	4	
-7	No Number	. LOCK ASSEMBLY, Lid LH (See figure 10-29 for BKDN) (ATTACHING PARTS)	1	
-8	MS51958-63	. SCREW	4	
-9	AN960C10L	. WASHER ---*---	4	
	7110030-3	. CABLE ASSEMBLY, Multi-release to RH lid lock assembly	1	
-10	7110020	. . COUPLING	1	
-11	RA-2487-2	. . BALL, Terminal	2	
-12	MIL-W-83420	. . WIRE	A/R	
-13	7110031	. . RETAINER	1	
-14	8610015-1	. . CONDUIT ASSEMBLY	1	
-15	8610016-1	. CABLE ASSEMBLY, Lid lock	1	
-16	MS25281-2	. CLAMP, Loop (ATTACHING PARTS)	3	
-17	MS51958-63	. SCREW	3	
-18	AN960C10L	. WASHER	6	
-19	22K2-02	. NUT ---*---	3	
-20	365705-5	. CABLE RELEASE ASSEMBLY (See figure 10-30 for BKDN) (ATTACHING PARTS)	1	
-21	MS51958-63	. SCREW	2	
-22	MS51958-62	. SCREW	1	
-23	AN960C10L	. WASHER	6	
-24	MS35489-31	. GROMMET (Note 1)	1	
-25	8610002-1	. CONTAINER, Riveted	1	

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
10-27-26	7010042	.	.					BRACKET ASSEMBLY, Radio beacon, AN/URT-33 (ATTACHING PARTS)	1	
-27	MS20426AD4-5.5	.	.					RIVET, Solid, cskh (0.125 dia x 0.375 lg) ---*---	4	
-28	8610056-1	.	.					HINGE, Male (ATTACHING PARTS)	2	
-29	MS20470AD4-7.5	.	.					RIVET, Solid hd. ---*---	4	
-30	8610018-2	.	.					RECEPTACLE, Plunger	1	
-31	8610019-1	.	.					BACKUP PLATE, Plunger bracket (ATTACHING PARTS FOR ITEMS 30 AND 31)	1	
-32	MS20470AD4-7	.	.					RIVET ---*---	5	
-33	8610053-1	.						PAD, Cork	1	
-34	8610002-21	.						TAPE, Pile fastener	1	
-35	8610002-23	.						TAPE, Pile fastener	1	
-36	8610002-25	.						TAPE, Pile fastener	1	
-37	8610002-27	.						TAPE, Pile fastener	1	
-38	8810021-1	.						BUMPER (ATTACHING PARTS)	2	
-39	MS51959-29	.						SCREW	1	
-40	AN960C6L	.						WASHER	1	
-41	22K2-62	.						NUT, Hex cap ---*---	1	



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Figure 10-28. Lid Lock Assembly RH

Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
10-28	9110000	LID LOCK ASSEMBLY, RH (31441)							REF	
		(See figure 10-27 for NHA)								
		(ATTACHING PARTS)								
-1	MS51958-63	.	SCREW						4	
-2	AN960C10L	.	WASHER						4	
			---*---							
-3	7110023	.	COVER, Housing						1	
		(ATTACHING PARTS)								
-4	MS51957-15	.	SCREW (4-40 x 0.312 lg) (Note 1)						4	
			---*---							
-5	8610059-3	.	SLIDE, Lid lock RH						1	
-6	7110019-3	.	HOUSING, Lid lock						1	
		Notes: 1. For installation coat threads with Loctite adhesive No. 242.								

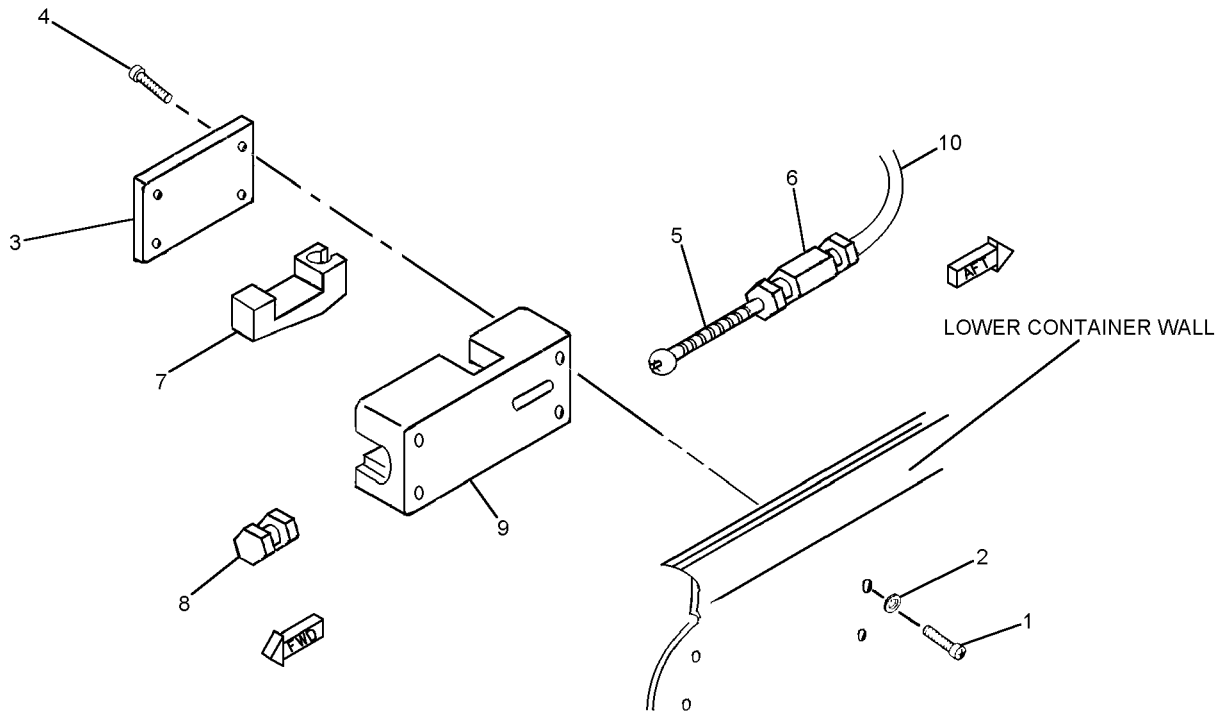
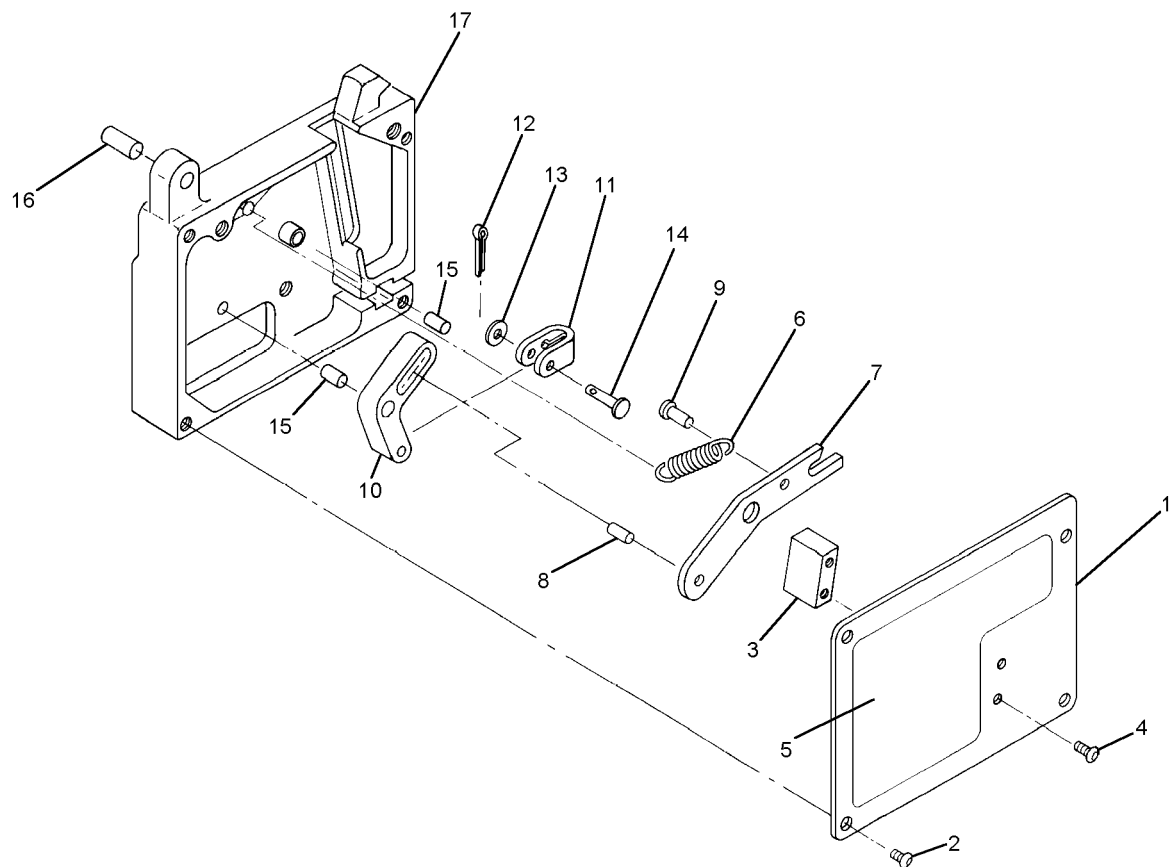


Figure 10-29. Lid Lock Assembly LH

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Figure and Index Number	Part Number	Description	Units Per Assembly	Usable On Code
		1 2 3 4 5 6 7		
10-29	9110001	LOCK ASSEMBLY, Lid, LH (31441) (See figure 10-27 for NHA) (ATTACHING PARTS)	REF	
-1	MS51958-63	. SCREW	4	
-2	AN960C10L	. WASHER	4	
		---*---		
-3	7110023	. COVER, Housing	1	
		(ATTACHING PARTS)		
-4	MS51957-15	. SCREW (4-40 x 0.312 lg) (Note 1)	4	
		---*---		
-5	7110056	. SPRING (19016), LH	1	
-6	7110024	. ADJUSTER, Conduit and cable, LH	1	
-7	8610059-1	. SLIDE, LH	1	
-8	7110021	. PLUG, LH	1	
-9	7110019-3	. HOUSING, Lid lock	1	
-10	8610016-1	. CABLE ASSEMBLY	1	
		Notes: 1. Coat threads with adhesive No. 242 prior to installing.		



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Figure 10-30. Cable Release Assembly (ASFS P/N 365705-5)

NAVAIR 13-1-6.3-2

Figure and Index Number	Part Number	Description 1 2 3 4 5 6 7	Units Per Assembly	Usable On Code
10-30	365705-5	CABLE RELEASE ASSEMBLY, (See figure 10-28 for NHA)	REF	
	365736-5	. COVER ASSEMBLY	1	
-1	365709	. . COVER	1	
		(ATTACHING PARTS)		
-2	MS51957-13	. . SCREW	4	
		---*---		
-3	365735	. . LUG, Lever stop	1	
		(ATTACHING PARTS)		
-4	MS51957-15	. . SCREW (Note 1)	2	
		---*---		
-5	8610036-1	. DECAL, Release cover	1	
	365712	. LEVER ASSEMBLY, Actuating	1	
-6	365714	. . SPRING, Extension	1	
-7	365706	. . LEVER	1	
-8	99002-10	. . PIN	1	
-9	MS20613-4C4	. . RIVET	1	
	365713-3	. . LINK ASSEMBLY, Release	1	
-10	365708	. . LINK, Intermediate	1	
-11	365707	. . LINK, Connecting	1	
		(ATTACHING PARTS)		
-12	MS24665-151	. . PIN, Cotter	1	
-13	AN960C4L	. . WASHER, Flat	1	
-14	AN121603	. . PIN, Flat head	1	
		---*---		
	365733-1	. HOUSING ASSEMBLY	1	
-15	99007-4	. . PIN	2	
-16	99004-1	. . PIN	1	
-17	365704-1	. . HOUSING, Machined	1	
	Notes: 1. Coat end two threads of screws using sealing compound (MIL-S-22473) for installation.			

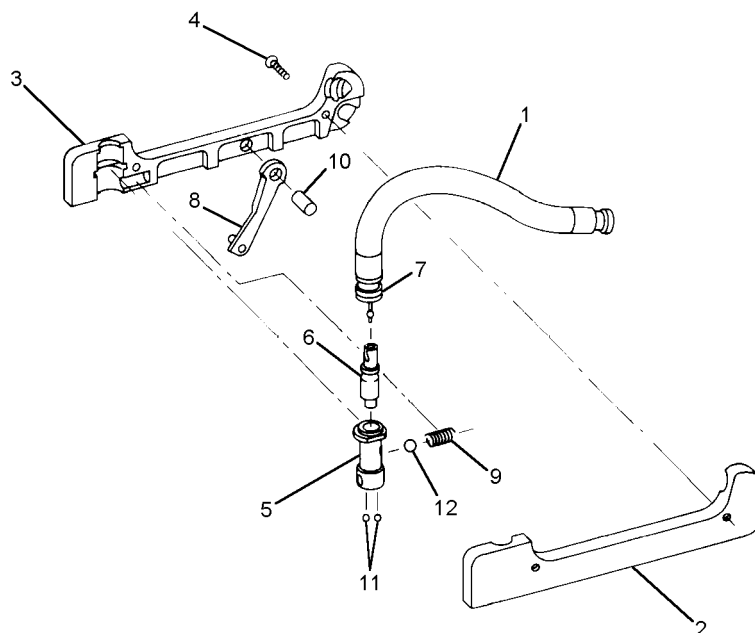


Figure 10-31. Handle Assembly

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Figure and Index Number	Part Number	Description							Units Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
10-31	365750	HANDLE ASSEMBLY, (See figure 10-23 for NHA)							REF	
-1	7310005	.							1	
-2	365751-3	.							1	
-3	365751-4	.							1	
		(ATTACHING PARTS FOR ITEMS 2 AND 3)								
-4	COML	.							3	
		SCREW, Flt hd (82 deg csk), hex soc, stl CAD plt (6-32NC-2A X 0.50 lg) ---*---								
-5	365753	.							1	
-6	365754	.							1	
-7	365758	.							1	
-8	365738	.							1	
-9	C180-032-0690M	.							1	
-10	MS9390-420	.							1	
-11	MS19060-4810	.							2	
-12	MS19060-4812	.							1	

NUMERICAL INDEX

Part Number	Figure and Index Number	SM&R Code	Part Number	Figure and Index Number	SM&R Code
AMS3655	10-24-94		MS21043-3	10-24-60	PAZZZ
AN121603	10-30-14			10-24-92	PAZZZ
AN515C4-4	10-26-39		MS24392D4	10-25-7	
AN809-1	10-26-34		MS24392D5	10-25-5	PAGZZ
AN960C10L	10-24-5	PAGZZ	MS24392J3	10-26-31	
	10-27-6	PAGZZ	MS24665-151	10-30-12	PAGZZ
	10-27-9	PAGZZ	MS24665-151	10-26-4	
	10-28-2	PAGZZ	MS24665-153	10-24-29	PAGZZ
	10-29-2	PAGZZ	MS24665-153	10-26-2	
	10-24-16	PAGZZ	MS25281-2	10-24-66	PAGZZ
	10-24-20	PAGZZ		10-27-16	PAGZZ
	10-24-24	PAGZZ	MS25281-3	10-24-3	
	10-24-28	PAGZZ	MS25281-4	10-24-22	PAGZZ
	10-24-32	PAGZZ	MS25281-5	10-24-62	PAGZZ
	10-24-37	PAGZZ	MS27769-D2	10-26-24	
	10-24-42	PAGZZ	MS35489-31	10-27-24	
	10-24-46	PAGZZ	MS35489-42	10-24-70	PAGZZ
	10-24-65	PAGZZ	MS35650-304	10-24-61	PAZZZ
	10-24-69	PAGZZ	MS51957-13	10-30-2	
	10-27-18	PAGZZ	MS51957-15	10-28-4	PAGZZ
	10-27-23	PAGZZ		10-29-4	PAGZZ
AN960C4	10-26-37			10-30-4	
AN960C4L	10-30-13		MS51957-28	10-23-5	PAGZZ
AN960C6L	10-23-6	PAGZZ		10-24-52	PAGZZ
	10-24-53	PAGZZ		10-24-86	PAGZZ
	10-24-87	PAGZZ	MS51957-31	10-24-104	PAGZZ
	10-27-40	PAGZZ	MS51957-43	10-27-2	PAGZZ
AN960C6L	10-24-103	PAGZZ	MS51957-69	10-24-31	PAGZZ
AN960C8L	10-27-3	PAGZZ	MS51958-61	10-24-79	PAGZZ
C180-032-0690M	10-31-9			10-24-83	PAGZZ
COML	10-31-4		MS51958-62	10-23-13	PAGZZ
EW63004	10-25-1			10-24-19	PAGZZ
F-4173-1-20	10-24-11			10-24-43	PAGZZ
	10-26-37			10-24-48	PAGZZ
GA506D1	10-23-14	PAGZZ		10-27-22	PAGZZ
MIL-W-83420	10-24-93		MS51958-63	10-24-4	PAGZZ
	10-27-12			10-27-5	PAGZZ
MS19060-4810	10-31-11			10-27-8	PAGZZ
MS19060-4812	10-31-12			10-28-1	PAGZZ
MS20392-1C17	10-26-3			10-29-1	PAGZZ
MS20426AD3-4	10-24-50	PAGZZ		10-24-23	PAGZZ
MS20426AD4-5.5	10-27-27			10-24-27	PAGZZ
MS20470AD4-7	10-27-32			10-24-45	PAGZZ
MS20470AD4-7.5	10-24-96			10-24-64	PAGZZ
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MS20613-4C4	10-30-9			10-27-17	PAGZZ
MS20822-3J	10-24-8			10-27-21	PAGZZ

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MS51959-29	10-27-39	PAGZZ
MS9390-420	10-31-10	
MS9461-03	10-26-19	
NAS1716C40T	10-24-12	PAGZZ
	10-24-17	PAGZZ
	10-24-40	PAGZZ
	10-24-35	PAGZZ
NAS397-10	10-22-6	
NAS43DD3-60	10-24-33	PAGZZ
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No Number	10-27-7	
■ P103-673	10-25-1	
P60FS6-32-8CR	10-26-13	
RA-2487-2	10-24-59	PAZZZ
	10-24-91	PAZZZ
	10-27-11	PAZZZ
SS48152-K1611	10-24-98	PAOZZ
VSF1015C3B	10-24-2	PAGZZ
■ Z02RV04-4	10-25-1	
015-11365-1	10-22-1	
102D499-17	10-23-20	
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128ES10060-27	10-22-4	
128ES10060-7	10-22-2	
128ES10060-9	10-22-3	
128ES10070-1	10-22-2	
128ES10070-5	10-22-2	
128SCES115-13	10-22-5	
19755	10-26-19A	
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22K2-02	10-24-6	PAGZZ
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3104AS100-1	10-25-3	PAGZZ
3171AS100-1	10-23-17	
3246AS100	10-22	
365700-1	10-23-3	PAGZZ
	10-24-51	PAGZZ
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365705-5	10-30	PAGGG
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365706	10-30-7	
365707	10-30-11	
365708	10-30-10	
365709	10-30-1	
365712	10-30	PAGZZ
365713-3	10-30	PAGZZ
365714	10-30-6	PAGZZ
365733-1	10-30	XAGZZ
365735	10-30-3	
365736-5	10-30	XAGZZ
365738	10-31-8	
365750	10-31	
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365751-3	10-31-2	PAGZZ
365751-4	10-31-3	
365753	10-31-5	
365754	10-31-6	
365757	10-27-1	
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6999002-5	10-26-23	
6999002-9	10-23-15	MDGZZ
	10-24-99	MDGZZ
7010042	10-27-26	MDGZZ
7110010	10-26-8	
7110012-1	10-23-12	PAGZZ
	10-24-47	PAGZZ
7110019-3	10-28-6	PAGZZ
	10-29-9	PAGZZ
7110020	10-27-10	PAGZZ
7110021	10-29-8	
7110023	10-28-3	XBGZZ
	10-29-3	PAGZZ
7110024	10-29-6	PAGZZ
7110030-3	10-27	
7110031	10-27-13	PAGZZ
7110056	10-29-5	

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723103-1	10-26-16			10-29-10	PAGZZ
723106	10-26-15		8610018-2	10-27-30	PAGZZ
723107	10-26-20		8610019-1	10-27-31	PAGZZ
723134	10-26-14		8610021-1	10-24-107	XAGZZ
7310005	10-31-1		8610022-21	10-23-23	MGGZZ
741374	10-26-9			10-24-105	MGGZZ
7520014-9	10-26-12		8610022-23	10-23-24	MGGZZ
7520019-207	10-26-33		8610022-25	10-23-25	MGGZZ
7620010-1	10-26-5		8610022-27	10-23-26	MGGZZ
7620011-203	10-26-10			10-24-106	MGGZZ
7620072-1	10-24-10		8610022-29	10-23-29	MGGZZ
	10-26-27		8610023-1	10-24	PAGGG
767100-1	10-26-1			10-23-16	PAGGG
767860	10-26-38		8610025-1	10-24-77	XBGZZ
767861	10-26-36		8610026-1	10-24-81	XBGZZ
767862	10-26-35		8610028-1	10-24-78	XBGZZ
767901-1	18-7			10-24-82	XBGZZ
767901-2	18-7		8610031-1	10-24-73	PAGZZ
767901-3	18-7		8610031-3	10-24-72	PAGZZ
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767902-3	18-11		8610035-1	10-24-21	PAGZZ
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7820012-1	18-21		8610038-1	10-24	PAGZZ
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8410030-1	10-24-44		8610042-1	10-24-85	
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8610002-23	10-23-31	MGGZZ	8610050-22	10-23-8	PAGZZ
	10-27-35	MGGZZ	8610051-1	10-24-74	PAGZZ
8610002-25	10-23-28	MGGZZ	8610052-1	10-23-11	PAGZZ
	10-27-36	MGGZZ	8610053-1	10-27-33	MGGZZ
8610002-27	10-23-27	MGGZZ	8610054-1	10-23-10	PAGZZ
	10-27-37	MGGZZ	8610055-1	10-24-95	PAGZZ
8610003-1	10-27	MGGZZ	8610056-1	10-27-28	PAGZZ
	10-23-22	PAGGG	8610059-1	10-29-7	PAGZZ
8610008-1	10-24-100	PAGGG	8610059-3	10-28-5	PAGZZ
8610009-1	10-24-76	MGGZZ	8610061-1	10-24-9	PAGZZ
8610010-3	10-24-57			10-24-90	PAGZZ
8610012-1	10-24-97	XBGGG	8610063-1	10-24-101	MGGZZ
8610015-1	10-27-14	PAGZZ	8620028-1	10-24-7	PAGZZ
8610016-1	10-27-15	PAGZZ		10-24-34	PAGZZ

NUMERICAL INDEX (Cont)

Part Number	Figure and Index Number	SM&R Code	Part Number	Figure and Index Number	SM&R Code
8720024-1	10-24-30	PAGGG	9110002	10-26-6	
	10-26		9120097-23	10-26-34A	PAGZZ
8720025-1	10-26-22		99002-10	10-30-8	
8810020-1	10-23-18	PAGZZ	99004-1	10-30-16	
8810021-1	10-27-38	PAGZZ	99007-4	10-30-15	
8810022-1	10-24-14	PAGZZ	99133	10-23-21	PAZZZ
	10-24-39	PAGZZ	99136-11-15	10-26-32	
8810023-1	10-25		99136-12-15	10-26-18	
	10-24-26		99136-52-15	10-26-30	
8810025-1	10-24-49	PAGZZ	99136-53-15	10-25-2	PAGZZ
8820049-1	10-26-1			10-25-4	PAGZZ
8820058-1	10-24	AGGGG		10-25-8	PAGZZ
8820059-1	10-24	AGGGG		10-26-25	
9110000	10-28		99136-54-15	10-25-6	PAGZZ
9110001	10-29				

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APPENDIX A

RESERVED

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APPENDIX B

TORQUING OF FLARED TUBE AND PIPE CONNECTIONS

Tightening of flared and pipe connections shall be accomplished in accordance with the best commercial practice. Torque wrenches shall be used, and the torque applied shall be within the limits specified in the following tables.

NOTE

Torque to specified minimum value and check for leakage. If additional torque is required to stop leakage, torque may be applied to specified maximum value.

Table B-1. Torque Requirements for Flared Tube Connections

Tubing O.D.	Minimum Torque	Maximum Torque
1/4 in.	50 inch-pounds	75 inch-pounds
5/16 in.	100 inch-pounds	125 inch-pounds
3/8 in.	200 inch-pounds	250 inch-pounds
1/2 in.	300 inch-pounds	400 inch-pounds
5/8 in.	400 inch-pounds	450 inch-pounds

Table B-2. Torque Requirements for Pipe Connections

Nominal Pipe Size	Minimum Torque	Maximum Torque
1/8 in.	40 inch-pounds	150 inch-pounds
1/4 in.	60 inch-pounds	200 inch-pounds
3/8 in.	100 inch-pounds	400 inch-pounds

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APPENDIX C

THE METRIC SYSTEM AND METRIC UNIT CONVERSION CHARTS

The Metric System simply and logically coordinates the measurements of length, area, volume, and mass into one decimalized system. United States currency, with its unexcelled convenience, was the first large scale national use of a decimal system. The ratio between the units of the series - dollars, dimes, cents, and mills - is ten. Additions and other numerical operations are simple. Calculations with metric units require no conversion from unit to unit, as for example between inches and feet or ounces and pounds.

In the Metric System there is one series of units for length, one for area, one for volume or capacity, and one for mass. (Refer to [tables C-1, C-2 and C-5](#).)

LENGTH - The common metric units of length are the millimeter (mm) for small dimensions, the centimeter (cm) for daily practical use, the meter (m) for expressing dimensions of larger objects and short distances and the kilometer (km) for longer distances. The centimeter is about four-tenths of an inch. The meter is about forty inches and the kilometer about six-tenths of a mile ([figure C-1](#)). When drawing to metric scale, engineering and product dimensions are in millimeters. Architectural drawings can be in millimeters or centimeters. On land surveys the unit is the meter. On maps the kilometer is the unit of measurement.

AREA - Small areas are usually measured in square centimeters (cm²). In building and construction the square meter (m²) is used and is about 20 percent larger than a square yard. The hectare (ha) is used for land surveys and is about 2.5 acres.

VOLUME - For volume the most convenient unit is the cubic decimeter (dm³), referred to as the liter (l). The liter is slightly larger than the U.S. liquid quart but smaller than the U.S. dry quart and the British Imperial quart. The preferred unit for dispensing unit for dispensing drugs and for scientific work is the cubic centimeter (cm³) or milliliter (ml) as it is also called. For measuring amounts of concrete and excavations the cubic meter (m³) is used.

MASS - In pharmaceutical and scientific work the gram (g) is the most convenient unit. There are slightly less than 30 grams in one avoirdupois ounce. For most other uses the kilogram (kg) is convenient and is approximately 2.2 pounds. The metric ton (t), 1000 kg, is used for farm commodities, minerals, and large shipments. It is convenient that a liter of pure water at standard temperature and pressure has a mass of one kilogram (discrepancy less than one part in 10,000). This relationship makes it easy to determine the mass of any known volume of water, or of any other liquid if its specific gravity is known.

TEMPERATURE - All countries using the Metric System of weights and measures also use the Celsius (C) scale (formerly called centigrade) for ordinary measurement of temperature. On the Celsius scale pure water at standard atmospheric pressure freezes at 0 and boils at 100. Normal human body temperature is 37°, while a comfortable room temperature is about 22°. The preferred temperature scale for engineering and physics is the kelvin (K) which has the same units as the Celsius and where the freezing point of pure water is 273.15 K.

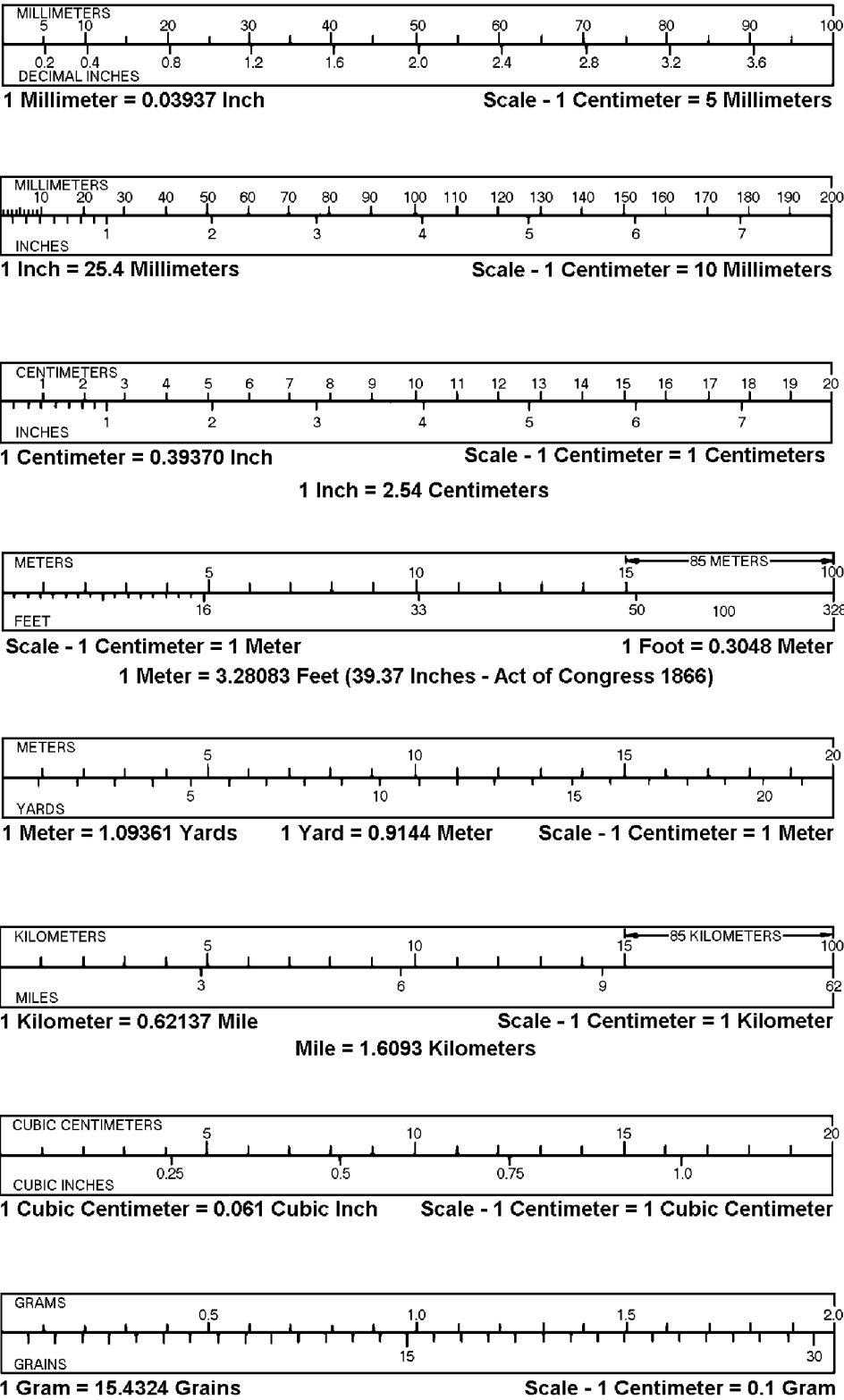
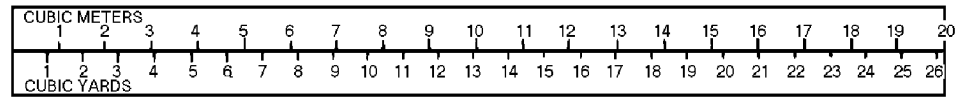
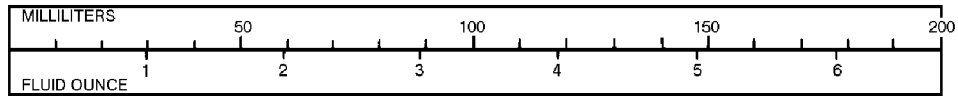


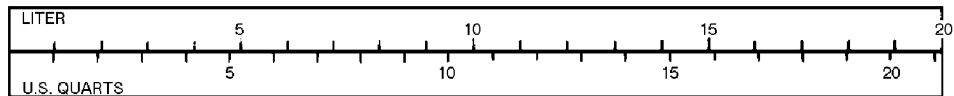
Figure C-1. Reference Conversion Charts (Sheet 1 of 2)



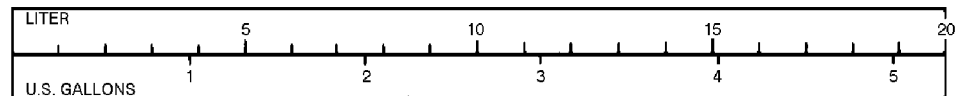
1 Cubic Meter = 1.30795 Cubic meter **Scale - 1 Centimeter = 1 Cubic Meter**
1 Cubic Yard = 0.76455 Cubic meter



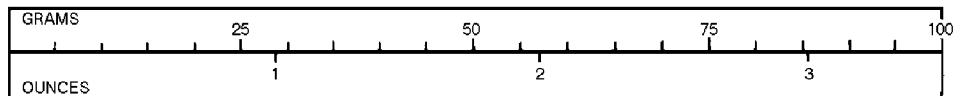
1 Milliliter = 0.03381 Fluid Ounce **Scale - 1 Centimeter = 10 Milliliter**
1 Fluid Ounce = 29.57 Milliliters



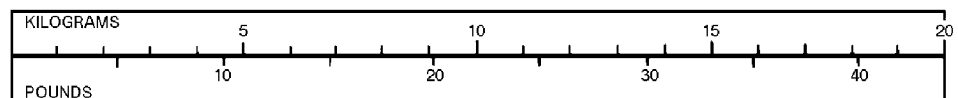
1 Liter = 1.0567 U.S. Quarts **1 U.S. Quart = 0.9463 Liter** **Scale - 1 Centimeter = 1 Liter**



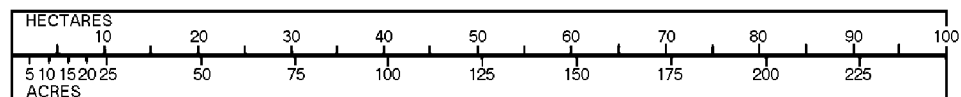
1 Liter = 0.26418 U.S. Gallon **Scale - 1 Centimeter = 1 Liter**
1 U.S. Gallon = 3.7853 Liters



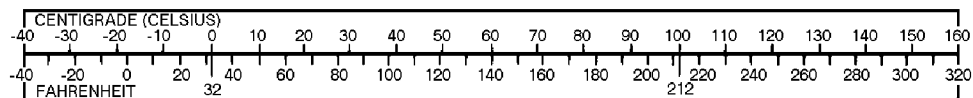
1 Avoirdupois ounce = 28.3495 Grams **Scale - 1 Centimeter = 5 Grams**



1 Kilogram = 2.2045 Pounds **Scale - 1 Centimeter = 1 Kilogram**
1 Pound = 0.45359 Kilogram



1 Hectare = 2.47105 Acres **Scale - 1 Centimeter = 5 Hectares**
1 Acres = 0.40489 Hectares **40 Acres = 16.19 Hectares**



Fahrenheit = 9/5 Centigrade plus 32 **Scale - 1 Centigrade = 10° Centigrade**
Centigrade = Fahrenheit minus 32 x 5/9

C-2A

Figure C-1. Reference Conversion Charts (Sheet 2 of 2)

Table C-1. Symbols and Relationships of Metric Units

Quantity	Unit (Note 1)	Symbol	Relationship of Units
Length	millimeter centimeter decimeter <u>meter (Note 2)</u> kilometer	mm cm dm m km	1 mm = 0.001 m 1 cm = 10 mm 1 dm = 10 cm 1 m = 100 cm 1 km = 1000 m
Area	square centimeter square decimeter <u>square meter (Note 2)</u> are hectare square kilometer	cm ² dm ² m ² a ha km ²	1 cm ² = 100 mm ² 1 dm ² = 100 cm ² 1 m ² = 100 dm ² 1 a = 100 m ² 1 ha = 100 a 1 km ² = 100 ha
Volume	{ cubic centimeter millimeter cubic decimeter liter <u>cubic meter (Note 2)</u>	cm ³ ml dm ³ l m ³	1 cm ³ } = 0.001 l 1 ml } 1 dm ³ } = 1000 ml 1 l } 1 m ³ = 1000 l
Mass*	milligram gram <u>kilogram (Note 2)</u> metric ton	mg g kg t	1 mg = 0.001 g 1 g = 1000 mg 1 kg = 1000 g 1 t = 1000 kg

*Mass is the quantity of matter. Weight is a force Earth's attraction for a given mass. Generally the term mass is meant when we use weight.

- Notes:
1. The three main units; meter liter and gram can be changed to more convenient sized units for specific purposes by means of several well known prefixes. Milli means 1/1000. Centi means 1/100. Deci means 1/10. Kilo means 1000. One merely learns the main units and the value of the most commonly used prefixes. The symbols for metric units are the same for single and plural amounts and are not followed by a period. Rates are usually shown by use of the slash as in m/s.
 2. The underlined units in this table are basic or derived units of the International System of Units (SI).

Table C-2. International System of Units (SI)

Quantity	Unit	Symbol
Elemental units		
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Temperature	degree Kelvin	°K
Luminous intensity	candela	cd
Supplementary units		
Plane angle	radian	rad
Solid angle	steradian	sr
Derived units		
Area	square meter	m ²
Volume	cubic meter	m ³
Frequency	hertz	Hz (s ⁻¹)
Density	kilogram per cubic meter	kg/m ³
Velocity	meter per second	m/s
Angular velocity	radian per second	rad/s
Acceleration	meter per second squared	m/s ²
Angular acceleration	radian per second squared	rad/s ²
Force	newton	N (kg m/s ²)
Pressure	newton per square meter	N/m ²
Kinematic viscosity	square meter per second	m ² /s
Dynamic viscosity	newton-second per square meter	N s/m ²
Work, energy, quantity of heat	joule	J (N m)
Power	watt	W (J/s)
Electric charge	coulomb	C (A s)
Voltage, potential difference, electromotive force	volt	V (W/A)
Electric field strength	volt per meter	V/m
Electric resistance	ohm	Ω (V/A)
Electric capacitance	farad	F (A s/V)
Magnetic flux	weber	Wb (V s)
Inductance	henry	H (V s/A)
Magnetic flux density	tesla	T (Wb/m ²)
Magnetic field strength	ampere per meter	A/m
Magnetomotive force	ampere	A
Luminous flux	lumen	lm (cd sr)
Luminance	candela per square meter	cd/m ²
Illumination	lux	lx (lm/m ²)

USE OF TABLES

Following are step by step directions for the solution to an example conversion problem. The example is: Convert 12 3/4 inches to centimeters.

1. Convert all fractions to decimals. (Refer to [table C-3.](#))

$$12 \frac{3}{4} = 12.75$$

2. Refer to table C-4 and find the column for the unit which you have. This would be the column labeled "INCHES" in the "Length" table.
3. Locate the numeral 1 in the column labeled "INCHES."
4. Locate the column labeled "CENTIMETERS."
5. Read the number in the CENTIMETERS column that is in direct line with the numeral 1 located in the INCHES column.

Read 2.540

6. Multiply the number of inches of this example by the conversion factor to obtain the number of centimeters.

$$2.540 \text{ times } 12.75 \text{ equals } 32.385$$

7. Round off the answer to not over four significant figures (four numbers counting from the first non-zero number on the left. Fewer significant figures may be used depending on the accuracy of measurement and the tolerances allowed. For most work in this manual, centimeters would be expressed as three significant figures.

$$12 \frac{3}{4} \text{ inches} = 32.4 \text{ centimeters}$$

Table C-3. Fraction/Decimal/Millimeter Conversion Chart

Fractions	Dec Equiv	MM Equiv	Fractions	Dec Equiv	MM Equiv
1/64	0.01562	0.397	33/64	0.515625	13.097
1/32	0.03125	0.794	17/32	0.53125	13.494
3/64	0.04688	1.191	35/64	0.546875	13.891
1/16	0.0625	1.588	9/16	0.5625	14.288
5/64	0.078125	1.984	37/64	0.578125	14.684
3/32	0.09375	2.381	19/32	0.59375	15.081
7/64	0.109375	2.778	39/64	0.609375	15.478
1/8	0.125	3.175	5/8	0.625	15.875
9/64	0.140625	3.572	41/64	0.640625	16.272
5/32	0.15625	3.969	21/32	0.65625	16.669
11/64	0.171875	4.366	43/64	0.671875	17.066
3/16	0.1875	4.762	11/16	0.6875	17.462
13/64	0.203125	5.159	45/64	0.703125	17.859
7/32	0.21875	5.556	23/32	0.71875	18.256
15/64	0.234375	5.953	47/64	0.734375	18.653
1/4	0.25	6.350	3/4	0.75	19.050
17/64	0.265625	6.747	49/64	0.765625	19.447
9/32	0.28125	7.144	25/32	0.78125	19.844
19/64	0.296875	7.541	51/64	0.796875	20.241
5/16	0.3125	7.938	13/16	0.8125	20.638
21/64	0.328125	8.334	53/64	0.828125	21.034
11/32	0.34375	8.731	27/32	0.84375	21.431
23/64	0.359375	9.128	55/64	0.859375	21.828
3/8	0.375	9.525	7/8	0.875	22.225
25/64	0.390625	9.922	57/64	0.890625	22.622
13/32	0.40625	10.319	29/32	0.90625	23.019
27/64	0.421875	10.716	59/64	0.921875	23.416
7/16	0.4375	11.112	15/16	0.9375	23.812
29/64	0.453125	11.509	61/64	0.953125	24.209
15/32	0.46875	11.906	31/32	0.96875	24.606
31/64	0.484375	12.303	63/64	0.984375	25.003
1/2	0.5	12.700	1	1.0	25.400

Table C-4. Metric Unit Conversions

<u>Length</u>							
Millimeters	Centimeters	Inches	Feet	Yards	Meters		
1.0	0.1000	0.03937	0.003281	0.001094	0.001000		
10.0	1.0	0.3937	0.03281	0.01094	0.01000		
25.40	2.540	1.0	0.08333	0.02778	0.0254		
304.8	30.48	12.0	1.0	0.3333	0.3048		
914.4	91.44	36.0	3.000	1.0	0.9144		
1000.0	100.0	39.37	3.281	1.094	1.0		
<u>Weight</u>							
Grams	Kilograms	Grains	Ounces Avoirdupois	Pounds Avoirdupois			
1000.0	1.0	15,432.0	35.27	2.205			
1.0	0.0010	15,432	0.03527	0.002205			
0.06480	0.00006480	1.0	0.002286	0.0001429			
28.35	0.02835	437.5	1.0	0.0625			
453.6	0.4536	7,000.0	16.0	1.0			
<u>Velocity</u>							
Meters/Sec	Kilometers/Hr	Feet/Sec	Miles/Hr	Knots			
1.0	3.600	3.281	2.237	1.944			
0.2778	1.0	0.9113	0.6214	0.5400			
0.3048	1.097	1.0	0.6818	0.5925			
0.4470	1.609	1.467	1.0	0.8690			
0.5144	1.852	1.688	1.1511	1.0			
<u>Pressure</u>							
Bars (Mega- baryes)	Kilograms/ square cm	Pounds/ square inch	Atmos- pheres	Columns of Mercury (0° C)		Columns of Water (15° C)	
				Meters	Inches	Meters	Inches
1.0	1.0197	14.50	0.9869	0.7501	29.53	10.21	401.8
0.9807	1.0	14.22	0.9678	0.7356	28.96	10.01	394.1
0.06895	0.07031	1.0	0.06805	0.05171	2.036	0.7037	27.70
1.0133	1.0332	14.70	1.0	0.7600	29.92	10.34	407.1
1.3332	1.3595	19.34	1.316	1.0	39.37	13.61	535.7
0.03386	0.03453	0.4912	0.03342	0.02540	1.0	0.3456	13.61
0.09798	0.09991	1.421	0.09670	0.07349	2.893	1.0	39.37
0.002489	0.002538	0.03609	0.002456	0.001867	0.0739	0.02540	1.0
0.02986	0.03045	0.4331	0.02947	0.02240	0.8819	0.3048	12.0
<u>Area</u>							
Square Meters	Square Centimeters	Square Inches	Square Feet	Square Yards			
1.0	10,000.0	1,550.0	10.76	1.196			
0.0001	1.0	0.1550	0.001076	0.0001196			
0.0006452	6,452.0	1.0	0.006944	0.0007716			
0.9290	929.0	144.0	1.0	0.1111			
0.8361	8,361.0	1,296.0	9.0000	1.0			
<u>Volume</u>							
Cubic Inches	Cubic Feet	Cubic Yards	Gallons (U.S.)	Quarts (U.S.)	Liters (Cubic Decimeters)	Cubic Meters	Milliliters (Cubic Centimeters)
1.0	0.0005787	0.00002143	0.004329	0.01732	0.01639	0.00001639	16.39
1,728.0	1.0	0.03704	7.481	29.92	28.32	0.02832	28,320
46,656.0	27.0	1.0	202.2	807.9	764.6	0.7646	764,600
231.0	0.1337	0.004951	1.0	4.000	3.785	0.003785	3,785
57.75	0.03342	0.001238	0.2500	1.0	0.9464	0.0009464	946.4
61.02	0.03531	0.001308	0.2642	1.057	1.0	0.001	1,000
61020	353.1	1.308	264.2	1057	1000.0	1	1,000,000
0.06102	0.00003531	0.000001308	0.0002642	0.001057	0.001	0.000001	1

Table C-5. Alphabetical Index of Metric Unit Conversions

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
A			B (Cont)		
Abcoulomb	Statcoulombs	2.998×10^{10}	Btu	ergs	1.0550×10^{10}
Acre	Sq. chain (Gunters)	10	Btu	foot-lbs	778.3
Acre	Rods	160	Btu	gram-calories	252.0
Acre	Square links (Gunters)	1×10^5	Btu	horsepower-hrs	3.931×10^{-4}
Acre	Hectare or		Btu	joules	1,054.8
	sq. hectometer	0.4047	Btu	kilogram-calories	0.2520
acres	sq feet	43,560.0	Btu	kilogram-meters	107.5
acres	sq meters	4,047.	Btu	kilowatt-hrs	2.928×10^{-4}
acres	sq miles	1.562×10^{-3}	Btu/hr	foot-pounds/sec	0.2162
acres	sq yards	4,840.	Btu/hr	gram-cal/sec	0.0700
acre-feet	cu feet	43,560.0	Btu/hr	horsepower-hrs	3.929×10^{-4}
acre-feet	gallons	3.259×10^4	Btu/hr	watts	0.2931
amperes/sq cm	amps/sq in.	6.452	Btu/min	foot-lbs/sec	12.96
amperes/sq cm	amps/sq meter	10^4	Btu/min	horsepower	0.02356
amperes/sq in.	amps/sq cm	0.1550	Btu/min	kilowatts	0.01757
amperes/sq in.	amps/sq meter	1,550.0	Btu/min	watts	17.57
amperes/sq meter	amps/sq cm	10^{-4}	Btu/sq ft/min	watts/sq in.	0.1221
amperes/sq meter	amps/sq in.	6.452×10^{-4}	Bucket (Br. dry)	Cubic Cm.	1.818×10^4
ampere-hours	coulombs	3,600.0	bushels	cu ft	1.2445
ampere-hours	faradays	0.03731	bushels	cu in.	2,150.4
ampere-turns	gilberts	1.257	bushels	cu meters	0.03524
ampere turns/cm	amp-turns/in.	2.540	bushels	liters	35.24
ampere-turns/cm	amp-turns/meter	100.0	bushels	pecks	4.0
ampere-turns/cm	gilberts/cm	1.257	bushels	pints (dry)	64.0
ampere-turns/in.	amp-turns/cm	0.3937	bushels	quarts (dry)	32.0
ampere-turns/in.	amp-turns/meter	39.37			
ampere-turns/in.	gilberts/cm	0.4950	C		
ampere-turns/meter	amp/turns/cm	0.01	Calories, gram(mean)	B.T.U. (mean)	3.9685×10^{-3}
ampere-turns/meter	amp-turns/in.	0.0254	Candle/sq. cm	Lamberts	3.142
ampere-turns/meter	gilberts/cm	0.01257	Candle/sq. inch	Lamberts	0.4870
Angstrom unit	Inch	3937×10^{-9}	Centares (centiares)	sq meters	1.0
Angstrom unit	Meter	1×10^{-10}	Centigrade	Fahrenheit	$(C^\circ \times 9/5) + 32$
Angstrom unit	Micron or (Mu)	1×10^{-4}	centigrams	grams	0.01
Are	Acre (US)	0.02471	Centiliter	Ounce fluid (US)	0.3382
Ares	sq. yards	119.60	Centiliter	Cubic inch	0.6103
ares	acres	0.02471	Centiliter	drams	2.705
ares	sq meters	100.0	centiliters	liters	0.01
Astronomical Unit	Kilometers	1.495×10^8	centimeters	feet	3.281×10^{-2}
Atmospheres	Ton/sq. inch	0.007348	centimeters	inches	0.3937
atmospheres	cms of mercury	76.0	centimeters	kilometers	10^{-5}
atmospheres	ft of water (at 4°C)	33.90	centimeters	meters	0.01
atmospheres	in. of mercury (at 0°C)	29.92	centimeters	miles	6.214×10^{-8}
atmospheres	kgs/sq cm	1.0333	centimeters	millimeters	10.0
atmospheres	kgs/sq meter	10,332	centimeters	mils	393.7
atmospheres	pounds/sq in.	14.70	centimeters	yards	1.024×10^{-2}
atmospheres	tons/sq ft	1.058	centimeter-dynes	cm-grams	1.020×10^{-3}
			centimeter-dynes	meter-kgs	1.020×10^{-8}
B			centimeter-dynes	pound-feet	7.376×10^{-8}
Barrels (U.S., dry)	cu. inches	7056.0	centimeter-grams	cm-dynes	980.7
Barrels (U.S., dry)	quarts (dry)	105.0	centimeter-grams	meter-kgs	10^{-5}
Barrels (U.S., liquid)	gallons	31.5	centimeter-grams	pound-feet	7.233×10^{-5}
barrels (oil)	gallons (oil)	42.0	centimeters of mercury	atmospheres	0.01316
bars	atmospheres	0.9869	centimeters of mercury	feet of water	0.4461
bars	dynes/sq cm	10^4	centimeters of mercury	kgs/sq meter	136.0
bars	kgs/sq meter	1.020×10^4	centimeters of mercury	pounds/sq ft	27.85
bars	pounds/sq ft	2,089.0	centimeters of mercury	pounds/sq in.	0.1934
bars	pounds/sq in.	14.50	centimeters/sec	feet/min	1.1969
Baryl	Dyne/sq. cm.	1.000	centimeters/sec	feet/sec	0.03281
Bolt (US Cloth)	Meters	36.576	centimeters/sec	kilometers/hr	0.036
BTU	Liter-Atmosphere	10.409	centimeters/sec	knots	0.1943
			centimeters/sec	meters/min	0.6

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
C (Cont)			C (Cont)		
centimeters/sec	miles/hr	0.02237	cubic meters	pints(U.S. liq.)	2,113.0
centimeters/sec	miles/min	3.728 X 10 ⁻⁴	cubic meters	quarts (U.S. liq.)	1,057.0
centimeters/sec/sec	feet/sec/sec	0.03281	cubic yards	cu cms	7.646 X 10 ⁵
centimeters/sec/sec	kms/hr/sec	0.036	cubic yards	cu feet	27.0
centimeters/sec/sec	meters/sec/sec	0.01	cubic yards	cu inches	46,656.0
centimeters/sec/sec	miles/hr/sec	0.02237	cubic yards	cu meters	0.7646
Chain	Inches	792.00	cubic yards	gallons (U.S. liq.)	202.0
Chain	meters	20.12	cubic yards	liters	764.6
Chains (surveyors' or Gunter's)	yards	22.00	cubic yards	pints (U.S. liq.)	1,615.9
circular mils	sq cms	5.067 X 10 ⁻⁶	cubic yards	quarts (U.S. liq.)	807.9
circular mils	sq mils	0.7854	cubic yards/min	cubic ft/sec	0.45
Circumference	Radians	6.283	cubic yards/min	gallons/sec	3.367
circular mils	sq inches	7.854 X 10 ⁻⁷	cubic yards/min	liters/sec	12.74
Cords	cord feet	8	D		
Cord feet	cu. feet	16	Dalton	Gram	1.650 X 10 ⁻²⁴
Coulomb	Statcoulombs	2.998 X 10 ⁹	days	seconds	86,400.0
coulombs	faradays	1.036 X 10 ⁻⁵	decigrams	grams	0.1
coulombs/sq cm	coulombs/sq in.	64.52	deciliters	liters	0.1
coulombs/sq cm	coulombs/sq meter	10 ⁴	decimeters	meters	0.1
coulombs/sq in.	coulombs/sq cm	0.1550	degrees (angle)	quadrants	0.01111
coulombs/sq in.	coulombs/sq meter	1,550.0	degrees (angle)	radians	0.01745
coulombs/sq meter	coulombs/sq cm	10	degrees (angle)	seconds	3,600.0
coulombs/sq meter	coulombs/sq in.	6.452 X 10 ⁻⁴	degrees/sec	radians/sec	0.01745
cubic centimeters	cu feet	3.531 X 10 ⁻⁵	degrees/sec	revolutions/min	0.1667
cubic centimeters	cu inches	0.06102	degrees/sec	revolutions/sec	2.778 X 10 ⁻³
cubic centimeters	cu meters	10 ⁻⁶	dekagrams	grams	10.0
cubic centimeters	cu yards	1.308 X 10 ⁻⁶	dekaliters	liters	10.0
cubic centimeters	gallons (U.S. liq.)	2.642 X 10 ⁻⁴	dekameters	meters	10.0
cubic centimeters	liters	0.001	Drams (apothecaries' or troy)	ounces (avoirdupois)	0.1371429
cubic centimeters	pints (U.S. liq.)	2.113 X 10 ⁻³	Drams (apothecaries' or troy)	ounces (troy)	0.125
cubic centimeters	quarts (U.S. liq.)	1.057 X 10 ⁻³	Drams (U.S., fluid or apoth.)	cubic cm.	3.6967
cubic feet	bushels (dry)	0.8036	drams	grams	1.7718
cubic feet	cu cms	28,320.0	drams	grains	27.3437
cubic feet	cu inches	1,728.0	drams	ounces	0.0625
cubic feet	cu meters	0.02832	Dyne/cm	Erg/sq. millimeter	0.01
cubic feet	cu yards	0.03704	Dyne/sq. cm.	Atmospheres	9.869 X 10 ⁻⁷
cubic feet	gallons (U.S. liq.)	7.48052	Dyne/sq. cm.	Inch of Mercury at 0°C	2.953 X 10 ⁻⁵
cubic feet	liters	28.32	Dyne/sq.cm.	Inch of Water at 4°C	4.015 X 10 ⁻⁴
cubic feet	pints (U.S. liq.)	59.84	dynes	grams	1.020 X 10 ⁻³
cubic feet	quarts (U.S. liq.)	29.92	dynes	joules/cm	10 ⁻⁷
cubic feet/min	cu cms/sec	472.0	dynes	joules/meter (newtons)	10 ⁻⁵
cubic feet/min	gallons/sec	0.1247	dynes	kilograms	1.020 X 10 ⁻⁶
cubic feet/min	liters/sec	0.4720	dynes	poundals	7.233 X 10 ⁻⁵
cubic feet/min	pounds of water/min	62.43	dynes	pounds	2.248 X 10 ⁻⁶
cubic feet/sec	million gals/day	0.646317	dynes/sq cm	bars	10 ⁻⁶
cubic feet/sec	gallons/min	448.831	E		
cubic inches	cu cms	16.39	Ell	Cm.	114.30
cubic inches	cu feet	5.787 X 10 ⁻⁴	Ell	Inches	45
cubic inches	cu meters	1.639 X 10 ⁻⁵	Em, Pica	Inch	0.167
cubic inches	cu yards	2.143 X 10 ⁻⁵	Em, Pica	Cm.	0.4233
cubic inches	gallons	4.329 X 10 ⁻³	Erg/sec	Dyne - cm/sec	1.000
cubic inches	liters	0.01639	ergs	Btu	9.480 X 10 ⁻¹¹
cubic inches	mil-feet	1.061 X 10 ⁵	ergs	dyne-centimeters	1.0
cubic inches	pints(U.S. liq.)	0.03463	ergs	foot-pounds	7.367 X 10 ⁻⁸
cubic inches	quarts(U.S. liq.)	0.01732	ergs	gram-calories	0.2389 X 10 ⁻⁷
cubic meters	bushels (dry)	28.38	ergs	gram-cms	1.020 X 10 ⁻³
cubic meters	cu cms	10 ⁴	ergs	horsepower-hrs	3.7250 X 10 ⁻¹⁴
cubic meters	cu feet	35.31			
cubic meters	cu inches	61,023.0			
cubic meters	cu yards	1.308			
cubic meters	gallons (U.S. liq.)	264.2			
cubic meters	liters	1,000.0			

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
E (Cont)			F (Cont)		
ergs	joules	10^{-7}	foot-pounds/sec	Btu/hr	4.6263
ergs	kg-calories	2.389×10^{-11}	foot-pounds/sec	Btu/min	0.07717
ergs	kg-meters	1.020×10^{-8}	foot-pounds/sec	horsepower	1.818×10^{-3}
ergs	kilowatt-hrs	0.2778×10^{-13}	foot-pounds/sec	kg-calories/min	0.01945
ergs	watt-hours	0.2778×10^{-18}	foot-pounds/sec	kilowatts	1.356×10^{-3}
ergs/sec	Btu/min	5.688×10^{-6}	Furlongs	miles(U.S.)	0.125
ergs/sec	ft-lbs/min	4.427×10^{-6}	furlongs	rods	40.0
ergs/sec	ft-lbs/sec	7.3756×10^{-8}	furlongs	feet	660.0
ergs/sec	horsepower	1.341×10^{-10}	G		
ergs/sec	kg-calories/min	1.433×10^{-9}	gallons	cu cms	3.785.0
ergs/sec	kilowatts	10^{-10}	gallons	cu feet	0.1337
F			gallons	cu inches	231.0
farads	microfarads	10^6	gallons	cu meters	3.785×10^{-3}
Faraday/sec	Ampere (absolute)	9.6500×10^4	gallons	cu yards	4.951×10^{-3}
faradays	ampere-hours	26.80	gallons	liters	3.785
faradays	coulombs	9.649×10^4	gallons (liq Br. Imp.)	gallons (U.S. liq.)	1.20095
Fathom	Meter	1.828804	gallons (U.S.)	gallons (Imp.)	0.83267
fathoms	feet	6.0	gallons of water	pounds of water	8.3453
feet	centimeters	30.48	gallons/min	cu ft/sec	2.228×10^{-3}
feet	kilometers	3.048×10^{-4}	gallons/min	liters/sec	0.06308
feet	meters	0.3048	gallons/min	cu ft/hr	8.0208
feet	miles (naut.)	1.645×10^{-4}	gausses	lines/sq in.	6.452
feet	miles (stat.)	1.894×10^{-4}	gausses	webers/sq cm	10^{-8}
feet	millimeters	304.8	gausses	webers/sq in.	6.452×10^{-8}
feet	mils	1.2×10^4	gausses	webers/sq meter	10^{-4}
feet of water	atmospheres	0.02950	gilberts	ampere-turns	0.7958
feet of water	in. of mercury	0.8826	gilberts/cm	amp-turns/cm	0.7958
feet of water	kgs/sq cm	0.03048	gilberts/cm	amp-turns/in	2.021
feet of water	kgs/sq meter	304.8	gilberts/cm	amp-turns/meter	79.58
feet of water	pounds/sq ft	62.43	Gills (British)	cubic cm.	142.07
feet of water	pounds/sq in	0.4335	gills	liters	0.1183
feet/min	cms/sec	0.5080	gills	pints (liq.)	0.25
feet/min	feet/sec	0.01667	Grade	Radian	0.01571
feet/min	kms/hr	0.01829	Grains	drams (avoirdupois)	0.03657143
feet/min	meters/min	0.3048	grains (troy)	grains (avdp)	1.0
feet/min	miles/hr	0.01136	grains (troy)	grams	0.06480
feet/sec	cms/sec	30.48	grains (troy)	ounces (avdp)	2.0833×10^{-3}
feet/sec	kms/hr	1.097	grains (troy)	pennyweight (troy)	0.04167
feet/sec	knots	0.5921	grains/U.S. gal	parts/million	17.118
feet/sec	meters/min	18.29	grains/U.S. gal	pounds/million gal	142.86
feet/sec	miles/hr	0.6818	grains/Imp. gal	parts/million	14.286
feet/sec	miles/min	0.01136	grams	dynes	980.7
feet/sec/sec	cms/sec/sec	30.48	grams	grains	15.43
feet/sec/sec	kms/hr/sec	1.097	grams	joules/cm	9.807×10^{-5}
feet/sec/sec	meters/sec/sec	0.3048	grams	joules/meter (newtons)	9.807×10^{-3}
feet/sec/sec	miles/hr/sec	0.6818	grams	kilograms	0.001
feet/100 feet	per cent grade	1.0	grams	milligrams	1.000.0
Foot - candle	Lumen/sq. meter	10.764	grams	ounces (avdp)	0.03527
foot-pounds	Btu	1.286×10^{-3}	grams	ounces (troy)	0.03215
foot-pounds	ergs	1.356×10^7	grams	poundals	0.07093
foot-pounds	gram-calories	0.3238	grams	pounds	2.205×10^{-3}
foot-pounds	hp-hrs	5.050×10^{-7}	grams/cm	pounds/inch	5.600×10^{-3}
foot-pounds	joules	1.356	grams/cu cm	pounds/cu ft	62.43
foot-pounds	kg-calories	3.24×10^{-4}	grams/cu cm	pounds/cu in	0.03613
foot-pounds	kg-meters	0.1383	grams/cu cm	pounds/mil-foot	3.405×10^{-7}
foot-pounds	kilowatt-hrs	3.766×10^{-7}	grams/liter	grains/gal	58.417
foot-pounds/min	Btu/min	1.286×10^{-3}	grams/liter	pounds/1.000 gal	8.345
foot-pounds/min	foot-pounds/sec	0.01667	grams/liter	pounds/cu ft	0.062427
foot-pounds/min	horsepower	3.030×10^{-5}	grams/liter	parts/million	1,000.0
foot-pounds/min	kg-calories/min	3.24×10^{-4}	grams/sq cm	pounds/sq ft	2.0481
foot-pounds/min	kilowatts	2.260×10^{-5}	gram-calories	Btu	3.9683×10^{-3}
			gram-calories	ergs	4.1868×10^7

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
G (Cont)			I (Cont)		
gram-calories	foot-pounds	3.0880	inches of mercury	kgs sq meter	345.3
gram-calories	horsepower-hrs	1.5596 X 10 ⁻⁶	inches of mercury	pounds/sq ft	70.73
gram-calories	kilowatt-hrs	1.1630 X 10 ⁻⁶	inches of mercury	pounds/sq in.	0.4912
gram-calories	watt-hrs	1.1630 X 10 ⁻³	inches of water (at 4°C)	atmospheres	2.458 X 10 ⁻³
grams-calories/sec	Btu/hr	14.286	inches of water (at 4°C)	inches of mercury	0.07355
gram-centimeters	Btu	9.297 X 10 ⁻⁸	inches of water (at 4°C)	kgs/sq cm	2.540 X 10 ⁻³
gram-centimeters	ergs	980.7	inches of water (at 4°C)	ounces/sq in.	0.5781
gram-centimeters	joules	9.807 X 10 ⁻⁵	inches of water (at 4°C)	pounds/sq ft	5.204
gram-centimeters	kg-cal	2.343 X 10 ⁻⁸	inches of water (at 4°C)	pounds/sq in.	0.03613
gram-centimeters	kg-meters	10 ⁻⁵	International Ampere	Ampere (absolute)	0.9998
H			International Volt	Volts (absolute)	1.0003
Hand	Cm.	10.16	International volt	Joules (absolute)	1-593 X 10 ⁻¹⁹
hetacres	acres	2.471	International volt	Joules	9.654 X 10 ⁴
hectares	sq feet	1.076 X 10 ⁵	J		
hectograms	grams	100.0	joules	Btu	9.480 X 10 ⁻⁴
hectoliters	liters	100.0	joules	ergs	10 ⁷
hectometers	meters	100.0	joules	foot-pounds	0.7376
hectowatts	watts	100.0	joules	kg calories	2.389 X 10 ⁻⁴
henries	millihenries	1,000.0	joules	kg-meters	0.1020
Hogsheads (British)	cubic ft.	10.114	joules	watt-hrs	2.778 X 10 ⁻⁴
Hogsheads (U.S.)	cubic ft.	8.42184	joules/cm	grams	1.020 X 10 ⁴
Hogsheads (U.S.)	gallons (U.S.)	63	joules/cm	dynes	10 ⁷
horsepower	Btu/min	42.44	joules/cm	joules/meter (newtons)	100.0
horsepower	foot-lbs/min	33,000.0	joules/cm	poundals	723.3
horsepower	foot-lbs/sec	550.0	joules/cm	pounds	22.48
horsepower (metric)	horsepower	0.9863	K		
(542.5 ft lb/sec)	(550 ft lb/sec)		kilograms	dynes	980,665.0
horsepower	horsepower (metric)	1.014	kilograms	grams	1,000.0
(550 ft lb/sec)	(542.5 ft lb/sec)		kilograms	joules/cm	0.09807
horsepower	kg-calories/min	10.68	kilograms	joules/meter (newtons)	9.807
horsepower	kilowatts	0.7457	kilograms	poundals	70.93
horsepower	watts	745.7	kilograms	pounds	2.205
horsepower (boiler)	Btu/hr	33,479	kilograms	tons (long)	9.842 X 10 ⁻⁴
horsepower (boiler)	kilowatts	9.803	kilograms	tons (short)	1.102 X 10 ⁻³
horsepower-hrs	Btu	2,547.0	kilograms	grams/cu cm	0.001
horsepower-hrs	ergs	2.6845 X 10 ¹³	kilograms/cu meter	pounds/cu ft	0.06243
horsepower-hrs	foot-lbs	1.98 X 10 ⁴	kilograms/cu meter	pounds/cu in.	3.613 X 10 ⁻⁵
horsepower-hrs	gram-calories	641,190.0	kilograms/cu meter	pounds/mil-foot	3.405 X 10 ⁻¹⁰
horsepower-hrs	joules	2.684 X 10 ⁴	kilograms/meter	pounds/ft	0.6720
horsepower-hrs	kg-calories	641.1	Kilogram/sq. cm.	Dynes	980,665
horsepower-hrs	kg-meters	2.737 X 10 ⁵	kilograms/sq cm	atmospheres	0.9678
horsepower-hrs	kilowatts-hrs	0.7457	kilograms/sq cm	feet of water	32.81
hours	days	4.167 X 10 ⁻²	kilograms/sq cm	inches of mercury	28.96
hours	weeks	5.952 X 10 ⁻³	kilograms/sq cm	pounds/sq ft	2,048.0
Hundredweights (long)	pounds	112	kilograms/sq cm	pounds/sq in.	14.22
Hundredweights (long)	tons (long)	0.05	kilograms/sq meter	atmospheres	9.678 X 10 ⁻⁵
Hundredweights (short)	ounces (avoirdupois)	1600	kilograms/sq meter	bars	98.07 X 10 ⁻⁶
Hundredweights (short)	pounds	100	kilograms/sq meter	feet of water	3.281 X 10 ⁻³
Hundredweights (short)	tons (metric)	0.0453592	kilograms/sq meter	inches of mercury	2.896 X 10 ⁻³
Hundredweights (short)	tons (long)	0.0446429	kilograms/sq meter	pounds/sq ft	0.2048
I			kilograms/sq meter	pounds/sq in.	1.422 X 10 ⁻³
inches	centimeters	2.540	kilograms/sq meter	kgs/sq meter	10 ⁶
inches	meters	2.540 X 10 ⁻²	kilogram-calories	Btu	3.968
inches	miles	1.578 X 10 ⁻⁵	kilogram-calories	foot-pounds	3.088
inches	millimeters	25.40	kilogram-calories	hp-hrs	1.560 X 10 ⁻³
inches	mils	1,000.0	kilogram-calories	joules	4,186
inches	yards	2.778 X 10 ⁻²	kilogram-calories	kg-meters	426.9
inches of mercury	atmospheres	0.03342	kilogram-calories	kilojoules	4.186
inches of mercury	feet of water	1.133	kilogram-calories	kilowatt-hrs	1.163 X 10 ⁻³
inches of mercury	kgs/sq cm	0303453	kilogram meters	Btu	9.294 X 10 ⁻³

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
K (Cont)			L (Cont)		
kilogram meters	ergs	9.804 X 10 ⁷	liters	bushels (U.S. dry)	0.02838
kilogram meters	foot-pounds	7.233	liters	cu cm	1,000.0
kilogram meters	joules	9.804	liters	cu inches	61.02
kilogram meters	kg-calories	2.342 X 10 ⁻³	liters	cu meters	0.001
kilogram meters	kilowatt-hrs	2.723 X 10 ⁻⁶	liters	cu yards	1.308 X 10 ⁻³
kilolines	maxwells	1,000.0	liters	gallons (U.S. liq.)	0.2642
kiloliters	liters	1,000.0	liters	pints (U.S. liq.)	2.113
kilometers	centimeters	10 ⁵	liters	quarts (U.S. liq.)	1.057
kilometers	feet	3,281.0	liters/min	cu ft/sec	5.886 X 10 ⁻⁴
kilometers	inches	3.937 X 10 ⁴	liters/min	gals/sec	4.403 X 10 ⁻³
kilometers	meters	1,000.0	lumens/sq ft	foot-candles	1.0
kilometers	miles	0.6214	Lumen	Spherical candle power	0.07958
kilometers	millimeters	10 ⁶	Lumen	Watt	0.001496
kilometers	yards	1,094.0	Lumen/sq. ft.	Lumen/sq. meter	10.76
kilometers/hr	cms/sec	27.78	lux	foot-candles	0.0929
kilometers/hr	feet/min	54.68	M		
kilometers/hr	feet/sec	0.9113	maxwells	kilolines	0.001
kilometers/hr	knots	0.5396	maxwells	webers	10 ⁻³
kilometers/hr	meters/min	16.67	megalines	maxwells	10 ⁴
kilometers/hr	miles/hr	0.6214	megohms	microhms	10 ¹²
kilometers/hr/sec	cms/sec/sec	27.78	megohms	ohms	10 ⁶
kilometers/hr/sec	ft/sec/sec	0.9113	meters	centimeters	100.0
kilometers/hr/sec	meters/sec/sec	0.2778	meters	feet	3.281
kilometers/hr/sec	miles/hr/sec	0.6214	meters	inches	39.37
kilowatts	Btu/min	56.92	meters	kilometers	0.001
kilowatts	foot-lbs/min	4.426 X 10 ⁴	meters	miles (stat.)	6.214 X 10 ⁻⁴
kilowatts	foot-lbs/sec	737.6	meters	millimeters	1,000.0
kilowatts	horsepower	1.341	meters	yards	1.094
kilowatts	kg-calories/min	14.34	meters	yards	1.179
kilowatts	watts	1,000.0	meters/min	cms/sec	1.667
kilowatt-hrs	Btu	3,413.0	meters/min	feet/min	3.281
kilowatt-hrs	ergs	3.600 X 10 ¹³	meters/min	feet/sec	0.05468
kilowatt-hrs	foot-lbs	2.655 X 10 ⁴	meters/min	kms/hr	0.06
kilowatt-hrs	gram-calories	859,850.0	meters/min	knots	0.03238
kilowatt-hrs	horsepower-hrs	1.341	meters/min	miles/hr	0.03728
kilowatt-hrs	joules	3.6 X 10 ⁴	meters/sec	feet/min	196.8
kilowatt-hrs	kg-calories	860.5	meters/sec	feet/sec	3.281
kilowatt-hrs	kg-meters	3.671 X 10 ⁵	meters/sec	kilometers/hr	3.6
kilowatt-hrs	pounds of water		meters/sec	kilometers/min	0.06
	evaporated from		meters/sec	miles/hr	2.237
	and at 212°F	3.53	meters/sec	miles/min	0.03728
	to 212°F	22.75	meters/sec/sec	cms/sec/sec	100.0
kilowatt-hrs	feet/hr	6,080.0	meters/sec/sec	ft/sec/sec	3.281
knots	kilometers/hr	1.8532	meters/sec/sec	kms/hr/sec	3.6
knots	nautical miles/hr	1.0	meters/sec/sec	miles/hr/sec	2.237
knots	statute miles/hr	1.151	meter-kilograms	cm-dynes	9.807 X 10 ⁷
knots	yards/hr	2,027.0	meter-kilograms	cm-grams	10 ⁵
knots	feet/sec	1.689	meter-kilograms	pound-feet	7.233
L			microfarad	farads	10 ⁻⁶
league	miles(approx.)	3.0	micrograms	grams	10 ⁻⁶
Light year	Miles	5.9 X 10 ¹²	microhms	megohms	10 ⁻¹²
Light year	Kilometers	9.46091 X 10 ¹²	microhms	ohms	10 ⁻⁶
lines/sq cm	gausses	1.0	microliters	liters	10 ⁻⁶
lines/sq in.	gausses	0.1550	Microns	meters	1 X 10 ⁻⁶
lines/sq in.	webers/sq cm	1.550 X 10 ⁻⁹	miles (naut.)	feet	6,080.27
lines/sq in.	webers/sq in.	10 ⁻⁸	miles (naut.)	kilometers	1.853
lines/sq in.	webers/sq meter	1.550 X 10 ⁻⁵	miles (naut.)	meters	1,853.0
links (engineer's)	inches	12.0	miles (naut.)	miles (statute)	1.1516
links (surveyor's)	inches	7.92	miles (naut.)	yards	2,027.0
			miles (statute)	centimeters	1.609 X 10 ⁵
			miles (statute)	feet	5,280.0
			miles (statute)	inches	6.336 X 10 ⁴

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
M (Cont)			O (Cont)		
miles (statute)	kilometers	1.609	ohms	microhms	10 ⁶
miles (statute)	meters	1,609.0	ounces	drams	16.0
miles (statute)	miles (naut)	0.8684	ounces	grains	437.5
miles (statute)	yards	1,760.0	ounces	grams	28.349527
miles/hr	cms/sec.	44.70	ounces	pounds	0.0625
miles/hr	feet/min	88.0	ounces	ounces (troy)	0.9115
miles/hr	feet/sec	1.467	ounces	tons (long)	2.790 X 10 ⁻⁵
miles/hr	kms/hr	1.609	ounces	tons (metric)	2.835 X 10 ⁻⁵
miles/hr	kms/min	0.02682	ounces (fluid)	cu inches	1.805
miles/hr	kms/min	0.02682	ounces (fluid)	liters	0.02957
miles/hr	knots	0.8684	ounces (troy)	grains	480.0
miles/hr	meters/min	26.82	ounces (troy)	grams	31.103481
miles/hr	miles/min	0.1667	ounces (troy)	ounces (avdp)	1.09714
miles/hr/sec	cms/sec/sec	44.70	ounces (troy)	pennyweights (troy)	20.0
miles/hr/sec	feet/sec/sec	1.467	ounces (troy)	pounds (troy)	0.08333
miles/hr/sec	kms/hr/sec	1.609	Ounce/sq. inch	Dynes/sq cm	0.4309
miles/hr/sec	meters/sec/sec	0.4470	ounces/sq in.	pounds/sq in.	0.0625
miles/min	cms/sec	2,682.0	P		
miles/min	feet/sec	88.0	Parsec	Miles	19 X 10 ¹²
miles/min	kms/minn	1.609	Parsec	Kilometers	3.084 X 10 ¹³
miles/min	knots/min	0.8684	part-/million	grains/U.S. gal	0.0584
miles/min	miles/hr	60.0	parts/million	grains/Imp. gal	0.07016
mil-feet	cu inches	9.425 X 10 ⁻⁶	parts/million	pounds/million gal	8.345
milliers	kilograms	1,000.0	Pecks (British)	cubic inches	554.6
Millimicrons	meters	1 X 10 ⁻⁹	Pecks (British)	liters	9.091901
Milligrams	grains	0.01543236	Pecks (U.S.)	bushels	0.25
milligrams	grams	0.001	Pecks (U.S.)	cubic inches	37.605
milligrams/liter	parts/million	1.0	Pecks (U.S.)	liters	8.809582
millihenries	henries	0.001	Pecks (U.S.)	quarts (dry)	8
milliliters	liters	0.001	pennyweights (troy)	grains	24.0
millimeters	centimeters	0.1	pennyweights (troy)	ounces (troy)	0.05
millimeters	feet	3.281 X 10 ⁻³	pennyweights (troy)	grams	1.55517
millimeters	inches	0.03937	pennyweights (troy)	pounds (troy)	4.1667 X 10 ⁻³
millimeters	kilometers	10 ⁻⁶	pints (dry)	cu inches	33.60
millimeters	meters	0.001	pints (liq.)	cu cms.	473.2
millimeters	miles	6.214 X 10 ⁻⁷	pints (liq.)	cu feet	0.01671
millimeters	mils	39.37	pints (liq.)	cu inches	28.87
millimeters	yards	1.094 X 10 ⁻³	pints (liq.)	cu meters	4.732 X 10 ⁻⁴
million gals/day	cu ft/sec	1.54723	pints (liq.)	cu yards	6.189 X 10 ⁻⁴
mils	centimeters	2.540 X 10 ⁻³	pints (liq.)	gallons	0.125
mils	feet	8.333 X 10 ⁻⁵	pints (liq.)	liters	0.4732
mils	inches	0.001	pints (liq.)	quarts (liq.)	0.5
mils	kilometers	2.540 X 10 ⁻⁸	Planck's quantum	Erg second	6.624 X 10 ⁻²⁷
mils	yards	2.778 X 10 ⁻⁵	Poise	Gram/cm. sec.	1.00
miner's inches	cu ft/min	1.5	Pounds (avoirdupois)	ounces (troy)	14.5833
Minims (British)	cubic cm.	0.059192	poundals	dynes	13,826.0
Minims (U.S., fluid)	cubic cm.	0.061612	poundals	grams	14.10
minutes (angles)	degrees	0.01667	poundals	joules/cm	1.383 X 10 ⁻³
minutes (angles)	quadrants	1.852 X 10 ⁻⁴	poundals	joules/meter (newtons)	0.1383
minutes (angles)	radians	2.909 X 10 ⁻⁴	poundals	kilograms	0.01410
minutes (angles)	seconds	60.0	poundals	pounds	0.03108
myriagrams	kilograms	10.0	pounds	drams	256.0
myriameters	kilometers	10.0	pounds	dynes	44.4823 X 10 ⁴
myriawatts	kilowatts	10.0	pounds	grains	7,000.0
N			pounds	grams	453.5924
nepers	decibels	8.686	pounds	joules/cm	0.04448
Newton	Dynes	1 X 10 ⁵	pounds	joules/meter (newtons)	4.448
O			pounds	kilograms	0.4536
OHM (International)	OHM (absolute)	1.0005	pounds	ounces	16.0
ohms	megohms	10 ⁻⁶	pounds	ounces (troy)	14.5833
			pounds	poundals	32.17
			pounds	pounds (troy)	1.21528

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
P (Cont)			R (Cont)		
pounds	tons (short)	0.0005	revolutions	degrees	360.0
pounds (troy)	grains	5,760.0	revolutions	quadrants	4.0
pounds (troy)	grams	373.24177	revolutions	radians	6.283
pounds (troy)	ounces (avdp.)	13.1657	revolutions/min	degrees/sec	6.0
pounds (troy)	pennyweights (troy)	240.0	revolutions/min	radians/sec	0.1047
pounds (troy)	pounds (avdp.)	0.822857	revolutions/min	revs/sec	0.01667
pounds (troy)	tons (long)	3.6735 X 10 ⁻⁴	revolutions/miri/min	radians/sec/sec	1.745 X 10 ⁻³
pounds (troy)	tons (metric)	3.7324 X 10 ⁻⁴	revolutions/min/min	revs/min/sec	0.01667
pounds (troy)	tons (short)	4.1143 X 10 ⁻⁴	revolutions/min/min	revs/sec/sec	2.778 X 10 ⁻⁴
pounds of water	cu feet	0.01602	revolutions/sec	degrees/sec	360.0
pounds of water	cu inches	27.68	revolutions/sec	radians/sec	6.283
pounds of water/min	cu ft/sec	2.670 X 10 ⁻⁴	revolutions/sec	revs/min	60.0
pound-feet	cm-dynes	1.356 X 10 ⁷	revolutions/sec/sec	radians/sec/sec	6.283
pound-feet	cm-grams	13,825.0	revolutions/sec/sec	revs/min/min	3,600.0
pound-feet	meter-kgs	0.1383	revolutions/sec/sec	revs/min/sec	60.0
pounds/cu ft	grams/cu cm	0.01602	Rod	Chain (Gunters)	0.25
pounds/cu ft	kgs/cu meter	16.02	Rod	Meters	5.029
pounds/cu ft	pounds/cu in.	5.787 X 10 ⁻⁴	Rods (Surveyors'		
pounds/cu ft	pounds/mil-loot	5.456 X 10 ⁻⁹	meas.)	yards	5.5
pounds/cu in.	gms/cu cm	27.68	rods	feet	16.5
pounds/cu in.	kgs/cu meter	2.768 X 10 ⁴			
pounds/cu in.	pounds/cu ft	1,728.0			
pounds/cu in.	pounds/mil-foot	9.425 X 10 ⁻⁶			
pounds/ft	kgs-meter	1.488			
pounds/in.	gms/cm	178.6			
pounds/mil-foot	gms/cu cm	2.306 X 10 ⁶			
pounds/sq ft	atmospheres	4.725 X 10 ⁻⁴			
pounds/sq ft	feet of water	0.01602			
pounds/sq ft	inches of mercury	0.01414			
pounds/sq ft	kgs/sq meter	4.882			
pounds/sq ft	pounds/sq in.	6.944 X 10 ⁻³			
pounds/sq in.	atmospheres	0.06804			
pounds/sq in.	feet of water	2.307			
pounds/sq in.	inches of mercury	2.036			
pounds/sq in.	kgs/sq meter	703.1			
pounds/sq in.	pounds/sq ft	144.0			
Q			S		
quadrants (angle)	degrees	90.0	Scruples	grains	20
quadrants (angle)	minutes	5,400.0	seconds (angle)	degrees	2.778 X 10 ⁻⁴
quadrants (angle)	radians	1.571	seconds (angle)	minutes	0.01667
quadrants (angle)	seconds	3.24 X 10 ⁵	seconds (angle)	quadrants	3.087 X 10 ⁻⁶
quarts (dry)	cu inches	67.20	seconds (angle)	radians	4.848 X 10 ⁻⁶
quarts (liq.)	cu cms	946.4	Slug	Kilogram	14.59
quarts (liq.)	cu feet	0.03342	Slug	Pounds	32.17
quarts (liq.)	cu inches	57.75	Sphere	Steradians	12.57
quarts (liq.)	cu meters	9.464 X 10 ⁻⁴	square centimeters	circular mils	1.973 X 10 ⁵
quarts (liq.)	cu yards	1.238 X 10 ⁻³	square centimeters	sq feet	1.076 X 10 ⁻³
quarts (liq.)	gallons	0.25	square centimeters	sq inches	0.1550
quarts (liq.)	liters	0.9463	square centimeters	sq meters	0.0001
			square centimeters	sq miles	3.861 X 10 ⁻¹¹
			square centimeters	sq millimeters	100.0
			square centimeters	sq yards	1.196 X 10 ⁻⁴
			square feet	acres	2.296 X 10 ⁻⁵
			square feet	sq cms	929.0
			square feet	sq inches	144.0
			square feet	sq meters	0.09290
			square feet	sq miles	3.587 X 10 ⁻⁶
			square feet	sq millimeters	9.290 X 10 ⁴
			square feet	sq yards	0.1111
			square inches	circular mils	1.273 X 10 ⁶
			square inches	sq cms	6.452
			square inches	sq feet	6.944 X 10 ⁻³
			square inches	sq millimeters	645.2
			square inches	sq mils	10 6
			square inches	sq yards	7.716 X 10 ⁻⁴
			square kilometers	acres	247.1
			square kilometers	sq cms	10 10
			square kilometers	sq ft	10.76 X 10 ⁶
			square kilometers	sq inches	1.550 X 10 ⁹
			square kilometers	sq meters	10 ⁶
			square kilometers	sq miles	0.3861
			square kilometers	sq yards	1.196 X 10 ⁶
			square meters	acres	2.471 X 10 ⁻⁴
			square meters	sq cms	10 ⁴
			square meters	sq feet	10.76
			square meters	sq inches	1,550.0
			square meters	sq miles	3.861 X 10 ⁻⁷
			square meters	sq millimeters	10 ⁶

Table C-5. Alphabetical Index of Metric Unit Conversions (Cont)

TO CONVERT	INTO	MULTIPLY BY
S (Cont)		
square meters	sq yards	1.196
square miles	acres	640.0
square miles	sq feet	27.88 X 10 ⁶
square miles	sq kms	2.590
square miles	sq meters	2.590 X 10 ⁶
square miles	sq yards	3.098 X 10 ⁶
square millimeters	circular mils	1,973.0
square millimeters	sq cms	0.01
square millimeters	sq feet	1.076 X 10 ⁻⁵
square millimeters	sq inches	1.550 X 10 ⁻³
square mils	circular mils	1.273
square mils	sq cms	6.452 X 10 ⁶
square mils	sq inches	10 ⁻⁶
square yards	acres	2.066 X 10 ⁻⁴
square yards	sq cms	8,361.0
square yards	sq feet	9.0
square yards	sq inches	1,296.0
square yards	sq meters	0.8361
square yards	sq miles	3.228 X 10 ⁻⁷
square yards	sq millimeters	8,361 X 10 ⁵
T		
temperature (°C) +273	absolute	1.0
temperature (°C) +17.78	temperature (°C)	
temperature (°F) +460	temperature (°F)	1.8
temperature (°F)32	absolute	1.0
	temperature (°F)	
	temperature (°C)	5/9
tons (long)	kilograms	1,016.0
tons (long)	pounds	2,240.0
tons (long)	tons (short)	1.120
tons (metric)	kilograms	1,000.0
tons (metric)	pounds	2,205.0
tons (short)	kilograms	907.1848
tons (short)	ounces	32,000.0
tons (short)	ounces (troy)	29,166.66
tons (short)	pounds	2,000.0
tons (short)	pounds (troy)	2,430.56
tons (short)	tons (long)	0.89287
tons (short)	tons (metric)	0.9078
tons (short)/sq ft	kgs/sq meter	9,765.0
tons (short)/sq ft	pounds/sq in.	2,000.0
tons of water/24 hrs	pounds of water/hr	83.333
tons of water/24 hrs	gallons/min	0.16643
tons of water/24 hrs	cu ft/hr	1.3349

TO CONVERT	INTO	MULTIPLY BY
V		
Volt/inch	Volt/cm.	0.39370
Volt (absolute)	Statvolts	0.003336
W		
watts	Btu/hr	3.4129
watts	Btu/min	0.05688
Watts	ergs/sec	107.0
watts	foot-lbs/min	44.27
watts	foot-lbs/sec	0.7378
watts	horsepower	1.341 X 10 ⁻³
watts	horsepower (metric)	1.360 X 10 ⁻³
watts	kg-calories/min	0.01433
watts	kilowatts	0.001
Watts (Abs.)	B.T.U. (mean)/min.	0.056884
Watts (Abs.)	joules/sec.	1
watt-hours	Btu	3.413
watt-hours	ergs	3.60 X 10 ¹⁰
watt-hours	foot-pounds	2,656.0
watt-hours	gram-calories	859.85
watt-hours	horsepower-hrs	1.341 X 10 ⁻³
watt-hours	kilogram-calories	0.8605
watt-hours	kilogram-meters	367.2
watt-hours	kilowatt-hrs	0.001
Watt (International)	Watt (absolute)	1.0002
webers	maxwells	10 ⁸
webers	kilolines	10 ⁵
webers/sq in.	gausses	1.550 X 10 ⁷
webers/sq in.	lines/sq in.	10 ⁸
webers/sq in	webers/sq cm	0.1550
webers/sq in.	webers/sq meter	1,550.0
webers/sq meter	gausses	10 ⁴
webers/sq meter	lines/sq in.	6.452 X 10 ⁴
webers/sq meter	webers/sq cm	10 ⁻⁴
webers/sq meter	webers/sq in.	6.452 X 10 ⁻⁴
Y		
yards	centimeters	91.44
yards	kilometers	9.144 X 10 ⁻⁴
yards	meters	0.9144 X 10 ⁻⁴
yards	miles (naut.)	4.934 X 10 ⁻⁴
yards	miles (stat.)	5.682 X 10 ⁻⁴
yards	millimeters	914.4

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GLOSSARY

ABRASION. A fuzzy spot or area on cloth, usually caused by rubbing against another object.

ACCORDION-FOLDS. Folding a piece of equipment into S-shaped layers of predetermined size. Accordion folding produces a packaged assembly in the desired finished shape.

ACID. A fundamental chemical class distinguished by having reactive hydrogen radicals (pH below 7.0). Acids can be extremely corrosive to metal and damaging to fabric.

ACTUATION LANYARD, AUTOMATIC. A wire cable connecting the survival kit reducer assembly to an aircraft structure (usually the cockpit deck), automatically providing the aircrewman with emergency oxygen at seat ejection.

ACTUATION LANYARD, BEACON. A wire cable connecting the spring-loaded actuator indicator of the radio beacon to the cockpit deck. Upon seat ejection, the lanyard pulls free from the actuator indicator, automatically actuating the radio beacon.

ACTUATION LANYARD, MANUAL. A device installed on the survival kit providing the aircrewman with a means of actuating the emergency oxygen supply, should automatic actuation fail to occur.

ACTUATOR INDICATOR. A spring-loaded device installed as part of the radio beacon that allows for automatic actuation of the radio beacon at seat ejection.

AGE LIFE. Age life is the period of time that an item may be considered acceptable for service. Age life commences with the date of manufacture and terminates with the time period limitations imposed by the appropriate shelf/service life combinations.

AID, LIFERAFT PACKING. Aid to restrain liferaft in folded position until packed.

AIRCREWMAN. An aircraft crewmember. Passengers are not considered aircrewmen.

ALKALINE. A substance which is opposite to an acid; a base. Also, any substance which has the properties of an alkali (metallic hydroxide).

AMBIENT TEMPERATURE. When performing maintenance on survival kits, ambient temperature is considered to be the temperature of the surrounding atmosphere.

ANTI-SEIZE TAPE. A tape of any of several thin plastic-film materials (such as tetrafluorethylene) characterized by a waxy, oily texture, and used to prevent binding between mating surfaces of threaded parts when applied to the male threaded portion.

APPROX. Abbreviation for approximately.

A/R. Abbreviation for as required.

ASSEMBLY. A grouping of parts fitted together to form a complete unit.

ATMOSPHERIC PRESSURE. Pressure at sea level, expressed as 14.696 pounds per square inch, absolute, or 29.92 inches mercury column (barometer).

AWL. A pointed tool for piercing small holes in cloth, leather, wood and other soft materials.

BACKSTITCH. A stitch made by inserting the needle a stitch length behind and bringing it up a stitch length ahead of the last stitch. Also, sewing back over a row of stitches.

BALL, SWAGED. A steel ball that is press-fitted to a cable to ensure maximum strength and security.

BARTACK. A concentrated series of zig-zag like stitches used to reinforce points of stress.

BEACON, EMERGENCY RADIO. An automatically actuated transmitter, mounted in the survival kit, that emits an inaudible beacon signal to attract rescue aircraft to a downed survivor.

BEESEWAX. A wax that is applied cold or melted to thread to prevent raveling or cloth unknitting and to make thread easier to sew.

BIGHT. A bend or loop that is formed in a line or lanyard to facilitate neat and orderly stowage.

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BINDING. A piece of tape or fabric folded over and stitched to a raw edge of cloth to prevent raveling or fraying.

BITTER END. The extreme free end of a line or rope.

BLOCK ASSEMBLY, INTERMEDIATE. A device mounted on the aft left corner of certain survival kits, providing a mounting receptacle for the upper and lower block assemblies. Emergency oxygen flows to the aircrewman through the intermediate block assembly.

BLOCK ASSEMBLY, LOWER. The lower block assembly provides a quick-disconnect for connecting breathing oxygen, communications, anti-g pressure and ventilating air between the aircraft and survival kit. Emergency oxygen is actuated at ejection by the lower block separating from the intermediate block.

BLOCK ASSEMBLY, UPPER. The upper block assembly is connected to the upper surface of the intermediate block when installed on the survival kit. It is used to connect breathing oxygen, anti-g pressure, ventilating air and communications from the intermediate block to the aircrewman.

BOOT. A flat, fabric casing incorporating channels to provide for orderly stowage and protection of a dropline or lanyard.

BOXSTITCH. A rectangular stitch used to attach and reinforce.

C. Abbreviation for Celsius.

CAGE. Commercial and Government Entity (CAGE) is a five position all numeric code. CAGE codes are assigned to organizations (entities) that are manufacturers or maintain design control of items of supply procured and cataloged by agencies of the Federal government.

⌄. Symbol for centerline.

CANVAS. A heavy, closely-woven cloth of linen, cotton or synthetic fabric.

CAUTION. Indicates danger to the equipment. The caution precedes the step or item to which it refers.

CLEVIS. A U-shaped metal fitting with a hole in each end to receive a pin or bolt.

CLIP. A device which fastens, holds together or retains.

CO₂. Abbreviation for carbon dioxide.

COMBUSTIBLE MATERIAL/SUBSTANCE. Any material or substance capable of burning in the presence of oxygen.

COML. Abbreviation for commercial. Refers to parts that are commercially available.

COMPONENT. An item of equipment making up part of an assembly or subassembly.

COMPOSITE DISCONNECT. A device which connects all personal service leads between the survival kit and aircraft. On seat ejection, all connections can be broken at a single point.

CONDUIT. A thin, hollow, metal tube that serves to protect and guide a cable or wire.

CONE, LOCKING. A small, smooth, cone-shaped metal post sewn to the flaps of a container. The cone has a horizontally drilled hole a short distance from the top to admit a temporary locking pin or ripcord pin.

CONFIGURATION. The makeup, size, shape and relative location of parts of an item of equipment and its accessories. This includes the composition of materials as well as marking details. The configuration of each equipment is specified by Government drawings, military specifications and the modification instructions contained in this volume.

CONTAINER. An assembly that encloses and protects the liferaft, oxygen system and survival equipment until deployment is desired.

CONTRASTING COLOR. A color which stands out from its background.

COTTER, HAIRPIN. A looped pin that is inserted into the actuator indicator of the radio beacon to prevent premature actuation. When the pin is with-

drawn (automatically or manually), the radio beacon is actuated.

COVER, RAFT. A fabric envelope that is tucked-in around the liferaft to prevent chafing and to facilitate closing the seat survival kit container.

CROSS BOX. A sewing pattern.

CUSHION, SEAT. A cloth-covered pad attached by snap fasteners to the upper surface of the seat survival kit to provide comfort for the aircrewman.

D-RING. A metal fitting shaped in the form of the letter "D."

DART. A stitched, tapering fold in a section of fabric. Used for shaping the fabric by gathering material to conform with a predetermined contour.

DETAIL PART. See [COMPONENT](#).

DIA. Abbreviation for diameter.

DISC, ANTI-CHAFING. A circular piece of rubberized fabric installed between the liferaft and the metal inflation valve of the carbon dioxide cylinder to prevent damage to the liferaft.

DISCONNECT-QUICK. A method of attachment allowing separation of two components by a single, rapid motion or action.

DISPOSITION. Instructions on what is to be done with items which are obsolete, worn out or beyond repair.

DOFF. To remove or take off an item of clothing or equipment.

DON. To put on an item of clothing or equipment.

DOUBLE STITCH. Two parallel rows of stitches.

DOUBLE-W. A sewing pattern.

DROPLINE. A nylon lanyard connecting the upper and lower containers of the seat survival kit. The dropline incorporates provisions for attachment of the liferaft and survival equipment container. When deployment is desired, the aircrewman pulls the release handle. The lower container falls away, but remains

attached to the upper container by the dropline. When the dropline is pulled tight, the liferaft is automatically inflated.

EGRESS. Outlet or means of getting out.

EJECTION SEAT. An emergency escape seat for propelling an occupant out and away from the aircraft by means of an explosive charge or rocket motor.

ELASTOMER. Any of various elastic substances resembling rubber.

EMERGENCY KIT, PARACHUTE. A Standard Soft Pack, High-Speed Soft Pack, Special Soft Pack or Rigid Seat Survival Kit containing a raft and survival equipment needed by an aircrewman in case of an emergency.

EQUIPMENT CONTAINER. A rectangular nylon bag used to store survival equipment within the seat survival kit. A slide fastener is provided for convenient access.

EXPLOSIVE MIXTURE. Any mixture of a combustible material or substance and oxygen capable of violent burning (detonation) either spontaneously or with the external application of heat.

EXTRUSION. A raised or grooved surface or edge.

F. Abbreviation for Fahrenheit.

FABRICATE. To make up or construct an item of equipment, accessory or material.

FAIRLEAD. Pulley, ring or hole used to guide a line, to prevent chafing or fouling, or to change its direction.

FAKE. To fold a line or lanyard in a back and forth fashion.

FASTENER, SLIDE. A type of fastener made of two lengths of tape with a series of metal or plastic scoops fastened to one side of each. A metal slide is provided which causes the scoops to mesh or lock in place as the fastener is closed, or to separate as the fastener is opened. Colloquial: ZIPPER.

FASTENER, SNAP. A metal fastener containing essentially a ball and a socket attached to opposed parts of a material and used to hold mating surfaces together.

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FIBER. A natural or synthetic filament (as of wool, cotton, rayon, etc.) capable of being spun into yarn.

FID. A small, flat, hand tool of metal or wood used during the packing procedure to straighten and insert flaps into the container.

FITTING, QUICK-RELEASE. A device used to connect and release on instant response.

FITTING, SWAGE. A connection, adapter or pin which is fastened to a cable by pressure. It is applied by means of a machine which compresses the fitting, causing it to tightly grip the cable or wire to which it is being attached.

FLAMMABLE MATERIAL. Any material capable of being easily ignited and of burning with extreme rapidity.

FLARING. The process of opening or widening, for example, the ends of oxygen tubing are often flared to ensure leak-tight connections to fittings.

FLUID. A gas, vapor or liquid.

FOLDER. A device used as an attachment to a sewing machine to guide and fold cloth.

FORM, GROUND/AIR EMERGENCY CODE. A form containing visual rescue signals. It is inserted in the equipment container of all seat survival kits.

FUNCTIONAL CHECK. A test which puts an item to use to determine if it operates properly.

GAGE. An instrument for measuring pressure.

GAUGE. A measurement of size or thickness.

GFE. Abbreviation for Government Furnished Equipment.

GROMMET. A metal eye and washer used to reinforce a hole in material.

GROMMET, HEAVING. A large hand-held rubber ring to which a nylon heaving line is tied by bowline knot. It's purpose is to carry the line a greater distance when thrown.

HARNESS. An arrangement of webbing straps used to attach a survival kit to the aircrewman.

HEATER, OXYGEN PURGING ELECTRIC. A device used in the purging process to heat the purging gas (nitrogen) before it enters the oxygen system.

HEAT EXCHANGER. An apparatus in which heat is exchanged from one fluid to another.

HEM. A border or reinforced edge formed by folding cloth back and securing it, usually by sewing.

HOOK TAPE. A strip of fabric tape with miniature hooks on one side. Hook tape is used together with pile tape as a fastener.

IN. Abbreviation for inches.

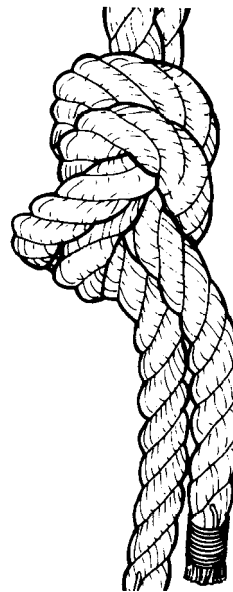
INFLATION ASSEMBLY. Inflation valve and carbon dioxide cylinder as a unit.

IN. H₂O. Abbreviation for inches of water column (27.68 IN. H₂O equals 1 PSI equals 2.036 IN. Hg).

IN. Hg. Abbreviation for inches of mercury column (0.07349 IN. Hg equals 1.0 IN. H₂O).

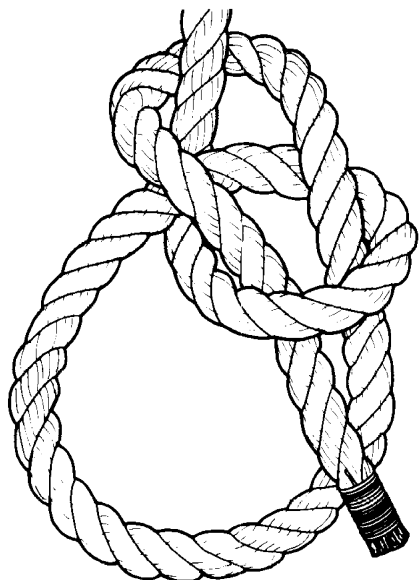
INSPECTION. A close examination for damage, wear and dirt. Also, a regularly scheduled examination of oxygen equipment and accessories.

KNOT, BINDER. The simplest method of joining two threads or lines. The two ends are placed side by side and a simple, overhand knot is then tied in both lines simultaneously. It will not slip when drawn tightly. Also called a thumb knot.



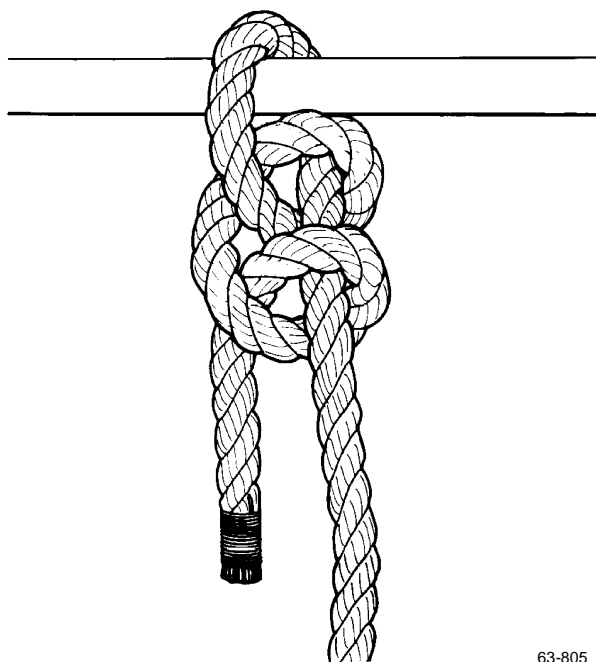
63-803

KNOT, BOWLINE. A knot formed by making a small overhand loop a desired distance from the end of the line. The end of the line is then passed through the loop from the underside of the main part of the line and back through the small part of the loop. When this knot is drawn tight, it will not slip but still can be easily untied.



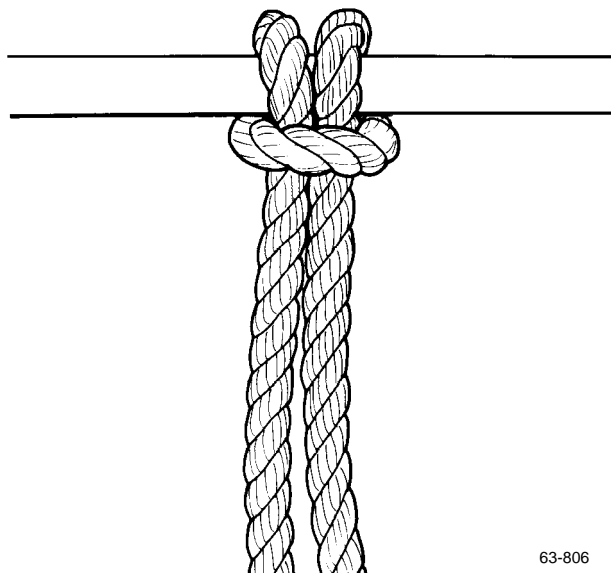
63-804

KNOT, HALF-HITCH. A knot formed by passing a cord or line around an object, then passing the free end around the main part of the cord and bringing the free end up through the loop thus formed.



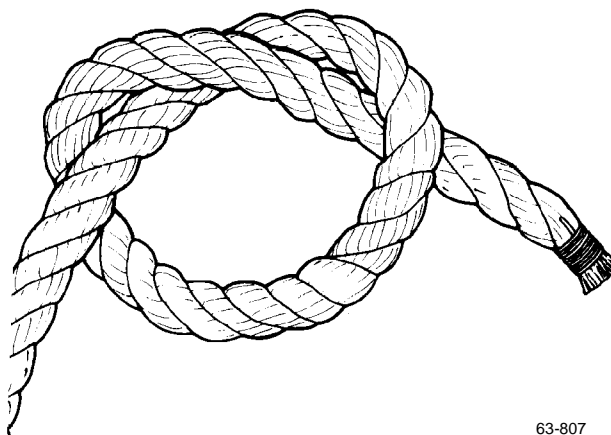
63-805

KNOT, LARK'S HEAD. A knot formed around an attachment ring or bar by passing the free ends of the line around the bar or through the ring and then through a loop or bight in the line.



63-806

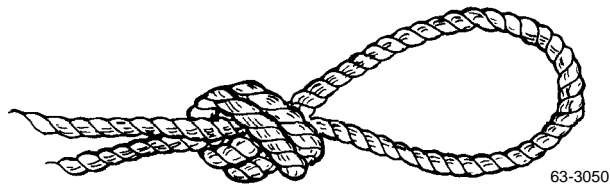
KNOT, OVERHAND. A simple knot tied in the end of a line by forming a loop and passing the end over and down through the loop.



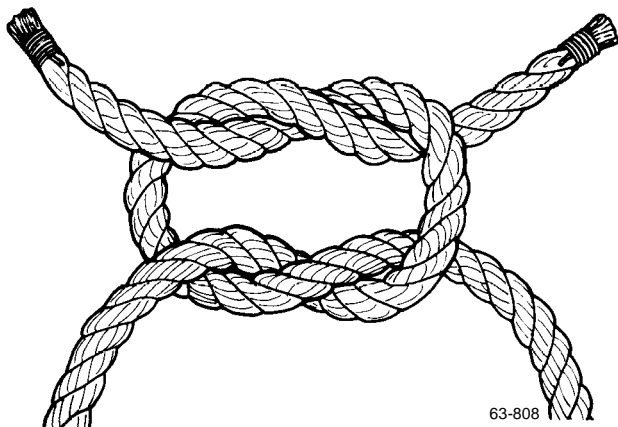
63-807

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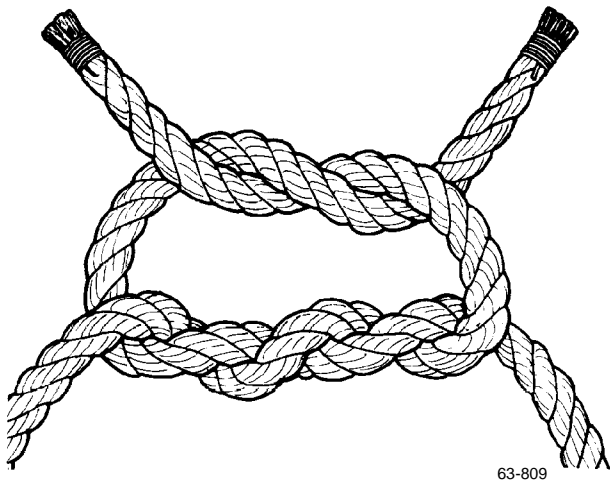
KNOT OVERHAND LOOP. Double the line forming a loop; then tie a simple overhand knot forming as large a loop as desired.



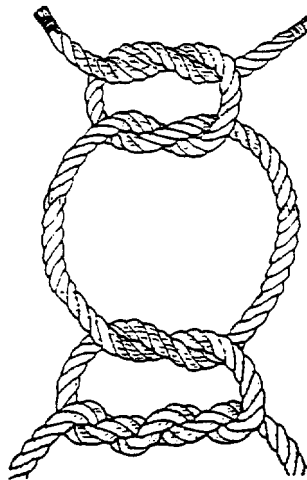
KNOT, SQUARE. A knot formed by passing the end of the cord in the left hand over and under the end in the right hand and then reversing the process by passing the end in the right hand over and under the end in the left hand.



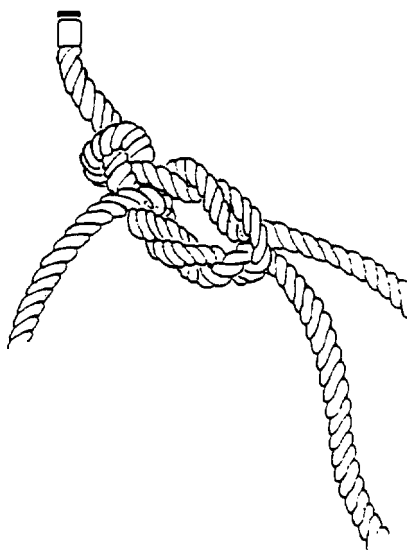
KNOT, SURGEON'S. The surgeon's knot is similar to the square knot, except that the first overhand tie is wrapped twice around the cord or line.



KNOT, SURGEON'S/KNOT, SQUARE. A combination of two standard knots formed exactly as the name suggests. Form the surgeon's knot first, then form a complete and separate square knot snugly against surgeon's knot.



KNOT, SURGEON'S/KNOT, OVERHAND. A combination of two standard knots formed exactly as the name suggests. Form surgeon's knot near end of line then follow with overhand knot in end of line positioned snugly against surgeon's knot to ensure no slippage.



LAPBELT. Part of the restraint system attached to the seat survival kit. The lapbelt incorporates Koch fittings for attachment to the aircrewman's torso harness suit.

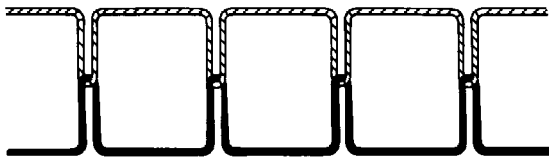
LAPBELT/BRAKE RIDER'S STRAP. A strap designed to secure the plane captain/ground servicing crewmember to the aircraft while it is being taxed.

LBS. Abbreviation for pounds.

LINE, RETAINING. A nylon lanyard connecting the liferaft to the aircrewman. The retaining line serves to prevent the aircrewman from becoming separated from, or loosing his liferaft.

LINE, VALVE ACTUATING. A nylon cord connecting the pull cable of the carbon dioxide inflation assembly to the dropline of the seat survival kit. This line is pulled tight before the dropline, thus actuating the carbon dioxide inflation assembly.

LOCKSTITCH. A common sewing-machine stitch formed when the thread in the needle goes through the material and connects with the bobbin thread. The needle and bobbin thread should lock in the center of the material thickness. (Ref. ASTM-D-6193, Type 301).



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LOCKWIRE. A wire that prevents loosening of a securing device.

LOX. Abbreviation for liquid oxygen.

LPM. Abbreviation for liters per minute.

MANIFOLD. A pipe fitting with several lateral outlets for connecting one pipe with others.

MANUAL OXYGEN RELEASE. A device (usually a green ring) attached to the top of the seat survival kit which enables the aircrewman to actuate the emergency oxygen system should automatic actuation not occur.

MECHANISM, RELEASE. A device which when actuated, separates the upper and lower containers allowing the liferaft to deploy.

MILDEW. A damaging fungus or mold which forms on cloth or leather. It is caused by dampness and the absence of fresh air and sunlight.

MOUSING. A turn or lashing used across the open end of a hook to prevent the load carried from slipping off.

NAMEPLATE. A label attached to equipment, giving data as to type, model number, date of manufacture, part number, serial number, etc.

NEGATIVE G FITTING. Hardware installed on the seat survival kit to prevent movement of the kit in all flight conditions.

NEGATIVE G STRAP. Performs the same function as the negative G fitting, but incorporates nylon straps instead of hardware.

NHA. Abbreviation for next higher assembly.

NO. Abbreviation for number.

NOTE. An information item. A note may precede or follow the item or step to which it refers.

PACK. To put together compactly; to store neatly, for example, packing a survival kit consists of stowing the survival equipment in a container, folding and covering the raft, and inserting both into the kit container.

PARAFFIN. Wax generally used with 50 percent beeswax as a hot dip to prevent the fraying of cut ends of webbing, cord, thread or tape. See also [BEESWAX](#).

PARARAFT. An emergency, one-man liferaft packed in a container, along with survival equipment. The pararaft is secured to the parachute pack or seat pan.

PILE TAPE. Strip of fabric tape with small nylon loops on one side. Used with hook tape as a fastener.

PIN, TEMPORARY LOCKING. A metal pin inserted through the eye of a locking cone to hold a flap in place until the ripcord pin is inserted.

PLD. Personnel Lowering Device. A device incorporated into some seat kits which enables an aircrew-

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man to safely lower himself to the ground should his parachute become entangled in trees or heavy foliage.

PRESSURE. The force exerted by a liquid or gas per unit of area on the walls of the container. See also: [PSIG](#), [PSIA](#) and [ATMOSPHERIC PRESSURE](#).

PRESSURE DROP. Loss in pressure, as from one end of a LOX line to the other, due to friction and other factors.

PRESSURE REDUCER. A device that changes high pressure (1800 psi) oxygen in the emergency oxygen cylinder of a seat kit to low pressure (40 to 80 psi) oxygen, suitable for breathing.

PSI. Abbreviation for pounds per square inch. See also: [PSIA](#) and [PSIG](#).

PSIA. Abbreviation for pounds per square inch, absolute. Absolute pressure is measured from absolute zero (100% vacuum), rather than from normal, or atmospheric pressure. It equals gage pressure plus 14.696 pounds per square inch. See also: [PSI](#), [PSIG](#) and [ATMOSPHERIC PRESSURE](#).

PSIG. Abbreviation for pounds per square inch, gage. Indicates pressure above ambient pressure, as indicated on a pressure gage vented to the atmosphere. See also: [PSI](#) and [PSIA](#).

PULL-TEST, RELEASE HANDLE. A test conducted on the seat kit release handle to ensure the force required to release the handle does not exceed the maximum allowed.

PURGING. The process of eliminating undesirable particles and impurities from an oxygen system by forcing pure, heated nitrogen through the system in several stages.

PYROTECHNIC. Any device which either burns or explodes.

QUALIFIED PERSONNEL. Graduates of the Aircrew Survival Equipment School.

R. Abbreviation for radius.

RAVEL (UNRAVEL). To separate, untwist or unwind, leaving a frayed or ragged edge. RAVEL is the preferred word to describe such a condition.

REF. Abbreviation for reference.

REPAIRS, MAJOR. Repairs requiring special equipment, personnel or materials not normally available at intermediate level of maintenance.

REPAIRS, MINOR. Repairs that can be performed at organizational or intermediate levels of maintenance.

RIG. To assemble and adjust; to equip.

RSSK. Rigid Seat Survival Kit.

SAFETY TIE. Low strength thread which serves to inhibit accidental opening, discharge or separation.

SAFETY WIRE. Low strength wire which serves to inhibit premature opening, discharge or separation.

SCRAP. To discard, with proper authorization, items, parts or materials which are obsolete or no longer useable.

SEAM. A series of stitches joining two or more pieces of cloth.

SEAR. To melt or seal with heat, for example, to sear the end of nylon webbing one heats the end until the nylon melts and fuses. This prevents raveling.

SEAT PAN. A sponge rubber covered metal seat which is contoured for comfort to the user. A seat pan is used with seat-type parachutes and back-type parachutes when a packaged liferaft assembly is used. A high-speed seat pan has sections for support under the aircrewman's thighs during ejection. This reduces leg strain caused by high acceleration loads.

SECURITY. An item firmly, positively and safely attached in the authorized manner.

SHIM. A thin, often tapered slip of metal used to fill in a void space or to level a component or part.

SKID PAD. A thin, cork-like material bonded to the underside of some survival kits to prevent movement of the kit in ejection seat bucket.

SLPM. Standard Liters Per Minute.

SM&R CODES. Abbreviation for source, maintenance and recoverability codes. Comprised of three parts; a two-position source code, a three position maintenance code, and a one-position recoverability code. Refer to NAVAIRINST 44233 for further details.

STITCHES PER INCH. The number of needle penetrations where threads are interlaced, per linear inch.

STOWING. The act of putting away in a neat, orderly fashion.

STRAP, LAP RESTRAINT. A strap attached to the integrated torso harness suit to retain the rigid seat survival kit to the wearer. Prior to ejection it serves as a safety restraint for the aircrewman.

SURVEY. A formal process by which a seat survival kit or other accountable equipment is withdrawn from service or removed from records.

SWAGE. To attach a device to a cable by means of pressure. A swaging machine compresses a fitting, causing it to grip tightly to the cable to which it is being attached.

TACK. To attach temporarily prior to final sewing. Also, to tie temporarily as an aid in positioning. Also, to permanently secure portions of a seat survival kit assembly together.

TAMPER DOT. A mark applied to a screwhead or nut that will indicate if the fitting has loosened or gone out of adjustment since the last inspection.

TAPE. A narrow, woven ribbon of cotton, linen, nylon or other material.

TEMPLATE. A pattern or gage commonly in the form of a thin plate of cardboard, wood or metal. It is used as a guide in the layout or cutting of flat work.

TOGGLE RESET TOOL. A metal tool used to reset the toggle arm of the reducer assembly on most seat survival kits.

TORQUE. A force, or combination of forces, that tend to produce a rotating or twisting motion. Torque is often expressed in inch-pounds or foot-pounds. A torque wrench is used to apply a measured torque.

TORSO HARNESS SUIT. A combination of webbing and a torso suit which includes the parachute harness, lap belt, shoulder belt and life vest attachment fittings.

T-WRENCH. A special tool used for removing the threaded metal insert of a radio beacon before installation in the seat survival kit.

TYP. Abbreviation for typical.

UNRAVEL. See [RAVEL](#).

VALVE, CHECK. A valve designed to allow the passage of a fluid in one direction only.

VALVE, FILLER. A one-way valve used to connect an external oxygen supply to the emergency oxygen cylinder of a seat survival kit for filling purposes.

VALVE, INFLATION. A valve attached to the carbon dioxide cylinder of the LR-1 liferaft. The valve directs the flow of carbon dioxide into the flotation tube of the liferaft.

VALVE, RELIEF. A valve designed to vent excess pressure to the atmosphere.

WARNING. Indicates danger to personnel. A warning precedes the item or step to which it refers.

WEBBING. A strong, narrow closely-woven tape of synthetic cotton or linen fiber designed for bearing weight.

WEBBING, TUBULAR. Strong synthetic or natural fiber webbing woven in the form of a tube.

X. Abbreviation for times or by; multiplication sign.

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